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**Immediate Response Action  
Status Report No. 3** (DEP RTN 3-  
23246) **and Immediate Response  
Action Status Report No. 1** (DEP  
RTN 3-26114)  
50 Tufts Street, Somerville, MA

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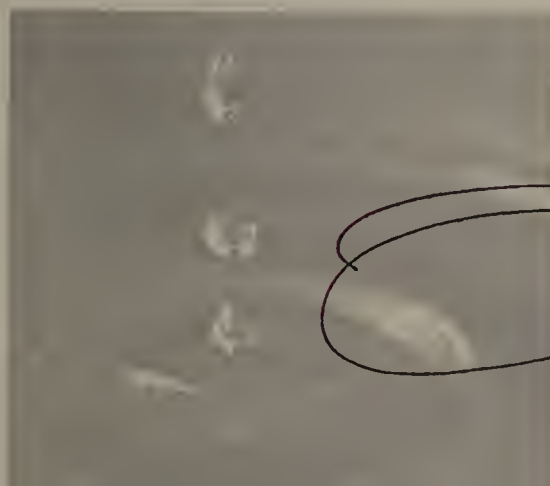
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Heen S. Gladstone, P.E., LSP  
Vice President





# Table of Contents

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<b>Executive Summary</b>	<b>1</b>
<b><u>1. Introduction</u></b>	<b><u>6</u></b>
1.1 Background .....	6
1.2 Contact Information .....	7
1.3 Purpose.....	7
1.4 Submittals .....	8
1.5 Public Involvement .....	8
<b><u>2. Capuano Center IRA Activities (RTN 3-26114)</u></b>	<b><u>9</u></b>
2.1 Introduction.....	9
2.2 Summary of Indoor Air and Sub-Slab Sampling and Laboratory Testing .....	9
2.2.1 HVAC Evaluation.....	10
2.2.2 Initial Indoor Air Sampling (December 2006).....	10
2.2.3 Indoor Air Sampling (January 2007) .....	10
2.2.4 Pre-SSDS Installation Sampling (February 2007).....	11
2.2.5 Post-SSDS Installation Sampling (February 2007) .....	11
2.2.6 Post SSDS Installation Sampling (March 2007).....	11
2.2.7 Work Plan and Quality Assurance Project Plan .....	11
2.2.8 Indoor Air Sampling - Pre-Sampling Survey.....	12
2.2.9 Air Sampling Quality Control.....	12
2.2.10 Meteorological Conditions (December 2006) .....	14
2.2.11 Indoor Air Testing.....	14
2.2.12 Sub-Slab Soil Vapor Testing .....	14
2.3 Summary of Soil Sampling at Capuano Community Garden.....	14
2.4 Mitigation.....	15
2.4.1 Relocation of Classes.....	15
2.4.2 HVAC System Investigation.....	15
2.4.3 Unit Ventilator Sealing .....	15
2.4.4 Sub-Slab Depressurization System (SSDS) Installation.....	16
2.4.5 SSDS Operation Monitoring.....	17
2.5 Investigation-Derived Waste .....	20
<b><u>3. Residence IRA Activities (RTN 3-26114)</u></b>	<b><u>21</u></b>
3.1 Introduction.....	21
3.2 Summary of Indoor Air Sampling .....	21
3.2.1 Quarterly Sampling (September/October 2006) .....	21
3.2.2 Quarterly Sampling (December 2006).....	22
3.2.3 Additional Sampling (January and February 2007).....	22



3.2.4	Work Plan and Quality Assurance Project Plan .....	22
3.2.5	Indoor Air Sampling - Pre-Sampling Survey.....	22
3.2.6	Air Sampling.....	23
3.2.7	Meteorological Conditions.....	25
3.3	Sub-Slab Soil Vapor Sampling.....	25
3.4	Indoor Air and Sub-Slab Soil Vapor Testing.....	27
3.5	Residential Air Purifiers .....	27
3.6	Residential SSDS .....	27
3.7	Dell Street .....	27
3.8	Investigation-Derived Waste .....	27
<b>4.</b>	<b><u>50 Tufts Street IRA Activities (RTN 3-23246)</u></b>	<b><u>28</u></b>
4.1	Introduction.....	28
4.2	Sub-Slab Monitoring Points.....	28
4.3	Sub-Slab Extraction Diagnostic Test.....	28
4.4	Floor Slab Joints and Macro-Cracks.....	29
4.5	Sub-Slab Depressurization System.....	29
<b>5.</b>	<b><u>Subsurface Investigation (RTNs 3-23246 and 3-26114)</u></b>	<b><u>30</u></b>
5.1	Previous Subsurface Investigations .....	30
5.2	Summary of Subsurface Investigation.....	30
5.3	Soil Boring and Monitoring Well Installation .....	31
5.4	Soil Sampling.....	32
5.5	Soil Vapor Sampling.....	32
5.5.1	January 2007 .....	32
5.5.2	February 2007 .....	32
5.5.3	March 2007 .....	33
5.5.4	Soil Vapor Sampling: Methods and Checklists .....	33
5.6	Groundwater Level Measurements.....	33
5.7	Quarterly Groundwater Sampling.....	33
5.7.1	October 2006.....	33
5.7.2	January 2007.....	34
5.8	Additional Groundwater Sampling (February and March 2007).....	34
5.9	Dell Street .....	35
5.10	Investigation-Derived Waste .....	35
<b>6.</b>	<b><u>Planned Activities</u></b>	<b><u>36</u></b>
6.1	Capuano Center.....	36
6.1.1	SSDS Operations Monitoring .....	36
6.1.2	Permanent System Upgrade.....	36
6.2	Residences and Commercial Buildings .....	36
6.3	50 Tufts Street.....	36
6.3.1	Apply uniform floor coating .....	36
6.3.2	Environmental Monitoring Plan for Indoor Air.....	37
6.4	Subsurface Investigation.....	37





6.4.1	Groundwater Sampling Transect .....	37
6.4.2	Monthly Groundwater Gauging.....	37
6.4.3	Quarterly Groundwater Sampling.....	37
6.4.4	Quarterly Soil Vapor Sampling .....	38

## **7. Limitations** **39**

### **Tables**

1. Properties to be Evaluated for Vapor Intrusion
2. Summary of Testing Results - Indoor Air Samples (Capuano)
3. Summary of Testing Results - Outdoor Air Samples (Capuano)
4. Summary of Testing Results - Sub-Slab Soil Vapor Samples (Capuano)
5. Summary of Testing Results - Stockpile Soil Samples (Capuano)
6. Summary of Testing Results - Indoor Air Samples (2005-2006) - (Tufts Street Residences)
7. Summary of PCE Concentrations in Indoor Air (Tufts Street Residences)
8. Summary of Testing Results - Outdoor Air Samples (Tufts Street Residences)
9. Summary of Testing Results - Indoor Air Samples (January 2007) (Other Residences)
10. Summary of Testing Results - Indoor Air Samples (February 2007) - (Other Residences)
11. Soil Boring and Monitoring Well Summary
12. Summary of Testing Results - Soil Samples
13. Summary of Testing Results - Soil Vapor Samples
14. Monthly Groundwater Elevations
15. Summary of Testing Results - Groundwater Samples
16. Field Testing Parameters - Groundwater Samples

### **Figures**

1. Site Location Map
2. 50 Tufts Street Site
3. Capuano Center Site Plan
4. Indoor Air Sampling Locations 12/27/06
5. Indoor Air Sampling Locations 12/28/06
6. Indoor Air Sampling Locations 1/2/07
7. Indoor Air Sampling Locations 1/6/07
8. Indoor Air Sampling Locations 1/13/07
9. Sub-Slab Soil Vapor Sampling Locations 1/31/07
10. Indoor Air Sampling Locations 2/7/07 & 2/8/07
11. Indoor Air Sampling Locations 3/8/07
12. Outdoor Air Sampling Locations
13. Garden Soil Sampling Locations 3/30/07
14. Unit Ventilator Cross-Section



15. SSDS Exterior Piping Schematic
16. SSDS Schematic
17. Trench Excavation and Wall Penetration Details
18. Sub-Slab Soil Vapor Monitoring Point Detail
19. Sub-Slab Sampling Locations (Residences and Buildings)
20. Evaluation Process for Potential Vapor Intrusion
21. Sub-Slab Soil Vapor Sampling Monitoring Point
22. Monitoring Well and Boring Locations
23. Soil Testing Results
24. Soil Vapor Testing Results
25. Groundwater Contours 10/4/06
26. Groundwater Contours 11/14/06
27. Groundwater Contours 12/12/06
28. Groundwater Contours 1/16/07
29. Groundwater Contours 2/12/07
30. Groundwater Contours 3/14/07
31. Groundwater Testing Results

## **Appendices**

- |            |                                                                               |
|------------|-------------------------------------------------------------------------------|
| Appendix A | Copies of IRA Status Report Transmittal Forms (BWSC105)                       |
| Appendix B | Public Meeting Agendas and Attendance Lists                                   |
| Appendix C | Summa Canister Certifications and Air Sampling Laboratory Data                |
| Appendix D | Soil Vapor and Sub-Slab Soil Vapor Testing Laboratory Data Sheets             |
| Appendix E | Capuano Center HVAC System Inspection and UV Sealing Report, Prepared by EH&E |
| Appendix F | Air Sampling Checklists, Surveys and Sample Location Photographs              |
| Appendix G | Capuano Center Field Monitoring Forms and Weekly Inspection Logs              |
| Appendix H | Capuano Center SSDS VOC Concentration Graphs                                  |
| Appendix I | Soil Vapor and Sub-Slab Soil Vapor Sampling Checklists and Photograph Logs    |
| Appendix J | Boring Logs and Monitoring Well Installation Logs                             |
| Appendix K | Soil Testing Laboratory Data                                                  |
| Appendix L | Groundwater Testing Laboratory Data                                           |
| Appendix M | Hazardous Waste Manifests                                                     |

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# Executive Summary

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On behalf of UniFirst Corporation of Wilmington, Massachusetts, GEI Consultants, Inc. (GEI) prepared this single Immediate Response Action (IRA) Status Report for both RTN 3-26144 (Report No.1) and RTN 3-23246 (Report No.3) for the Site located at 50 Tufts Street in Somerville, Massachusetts (Fig. 1). This IRA Status Report documents activities associated with the 50 Tufts Street Site from September 28, 2006 through March 31, 2007.

Based on the results of assessments conducted to date, the Site includes the 50 Tufts Street property (the Property), together with portions of properties in the neighborhood to the east and west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) (Fig. 2). The Property is approximately 51,111 square feet and developed with an approximately 20,594-square-foot, one-story, masonry block building. The majority of the building is warehouse space, and a small portion is office space.

Chlorinated volatile organic compounds (VOCs), particularly tetrachloroethylene (also called perchloroethylene [PCE]), have been measured in soil, groundwater, soil vapor and indoor air at the Site. The chlorinated VOCs are likely associated with the historic handling, storage, and distribution of laundry and dry cleaning chemicals at the Property.

There are two active Massachusetts Department of Environmental Protection (DEP) Release Tracking Numbers associated with the Site: 3-23246 and 3-26114. The Site (3-23246) is currently classified Tier IC under RTN 3-23246. Response actions conducted on the Property are performed under RTN 3-23246. An additional Release Tracking Number, RTN 3-26114, was assigned to the Site in August 2006, in connection with indoor air sampling in nearby residences. For purposes of administrative convenience, DEP has requested that response actions conducted outside the boundaries of the Property be performed and reported under RTN 3-26114.

Both RTNs are subject to ongoing IRA activities and associated documentation requirements. This IRA Status Report meets the submittal requirements for:

- RTN 3-23246: IRA Status Report No. 3
- RTN 3-26114: IRA Status Report No. 1

The due date for the combined submittal is May 9, 2007.

DEP approval of the due date and preparation of the Status Reports as a combined submittal was confirmed in an email from Ms. Irene Dale of the DEP dated November 16, 2007. The email from Ms. Dale also confirmed that subsequent Status Reports, prepared as combined submittals, will be due every 180 days after May 9, 2007, until submittal of an IRA Completion Report.



Response actions performed as part of the combined IRA from September 28, 2006 through March 31, 2007 included:

- Evaluation of indoor air quality and the installation of a sub-slab depressurization system (SSDS) at the Capuano Center to reduce the potential migration of sub-slab vapor to indoor air.
- Evaluation of indoor air quality and the potential for the migration of sub-slab vapor into the indoor air of residences and other buildings in the vicinity of 50 Tufts Street.
- Installation of SSDS in the building on the Property.
- Continued subsurface investigations in the vicinity of the Site.

### **Capuano Center (RTN 3-26114)**

Beginning in December 2006, GEI conducted indoor air sampling at the Capuano Center as part of the ongoing investigation associated with the Site. Although there were no detectable levels of PCE in the majority of classrooms and common areas, PCE was detected in indoor air samples collected in three classrooms and their associated resource rooms.

The indoor air quality evaluation was initiated by representatives from GEI and Environmental Health and Engineering of Newton, Massachusetts (EH&E), during the December 2006 vacation period. The evaluation included a review of the engineering and construction details of the building, inspection and testing of its heating, ventilation, and air conditioning (HVAC) system, field screening for chemicals using a photo-ionization detector (PID), and laboratory testing of indoor air samples collected throughout the building.

EH&E performed a comprehensive evaluation of the HVAC system at the Capuano Center. EH&E then made adjustments to the HVAC system to optimize its operation and return it to the original design specifications, which create a positive pressure in the building. The adjustments made to the HVAC system decreased PCE concentrations measured in indoor air.

DEP has established a goal of “zero exposure” in indoor air in schools. As a result, GEI designed and oversaw the installation of a SSDS in the south wing of the Capuano Center to control the migration of chlorinated VOC vapors from beneath the floor slab into indoor air. The SSDS was activated on February 1, 2007 and has been operating continuously since that time.

No chlorinated VOCs have been detected in indoor air samples collected at the Capuano Center since activation of the SSDS.





## **Residential and Commercial Buildings (3-26114)**

### ***Indoor Air Testing***

Indoor air testing has been conducted at homes in the vicinity of the Property. Indoor air testing was initiated by GEI in the homes along the southern portion of Tufts (9, 11-13, 19, 23, 25 and 27) in March 2006 as part of the initial evaluation of the affects of subsurface contamination at the Property. The final two rounds of the year-long quarterly indoor air sampling program at those homes were collected in September/October and December 2006. UniFirst offered to install an SSDS in each of the homes along the southern portion of Tufts Street.

In January and February 2007, GEI collected indoor air samples from the commercial building at 30-40 Alston Street; and the residences at 6, 9, 10, 14, 16, and 22 Dell Street; 91-93 Franklin Street; 31-33 and 35-37 Knowlton Street; and Unit 4 in the 60 Tufts Street building.

Chlorinated VOCs were not detected above the laboratory reporting limits in any of the indoor air samples collected in the homes along Dell Street. Based on the indoor air testing results, along with groundwater and soil vapor test results from sampling points located along Dell Street, it is GEI's opinion that the indoor air in homes along Dell Street has not been affected by the subsurface contamination at the Property.

Based on the indoor air testing results at 91-93 Franklin Street, 31-33 and 35-37 Knowlton Street, and Unit 4 in the 60 Tufts Street building, GEI recommended that these buildings be evaluated further. GEI installed air purifiers in these homes as a temporary mitigative measure as the evaluation continues.

### ***Sub-Slab Soil Vapor Sampling***

Based on previous and recent groundwater, soil vapor and indoor air testing results, GEI identified a several-block area near the Property in which to evaluate vapor intrusion as a potential exposure pathway. If warranted based on that evaluation, GEI will install SSDSs as permanent mitigative measures. The residential and commercial buildings being evaluated are listed in Table 1.

After obtaining permission from building owners within the evaluation area, GEI personnel began installing sub-slab or soil vapor sampling ports in basements and slab-on-grade foundations on March 12, 2007. Validated results of the soil vapor testing are not yet available, and will be presented in a future submittal to DEP.

## **50 Tufts Street (3-23246)**

GEI is currently overseeing the installation of an SSDS in the building on the Property to reduce the potential migration of sub-slab vapor to indoor air. The system has been designed to allow either active or passive operation. The installation includes putting in sub-slab monitoring



points, performing a sub-slab extraction diagnostic test, sealing floor slab joints and macro-cracks, coating the floor with a sealant, and installing the piping and mechanical equipment.

In February, UniFirst obtained permission from the current owner of the Property, Somerville Two, LLC, to install sub-slab monitoring points. The monitoring points have been used for ongoing measurements of sub-slab vapor pressure and sub-slab air quality and have provided data to support remedial design and assessment. Between March 24 and 28, 2007, GEI conducted a diagnostic test to collect information about sub-slab air flow and vacuum distribution. These parameters were used in the design of the SSDS to determine the spacing of the extraction points and mechanical equipment requirements.

Sealing of the cracks and joints and installation of the piping for the SSDS was initiated on March 21, 2007 and was ongoing as of March 31, 2007.

### **Subsurface Investigations (RTN 3-23246 and RTN 3-26114)**

To continue the evaluation of the extent of subsurface contamination, and the potential for it to affect additional residential and commercial buildings, GEI observed the installation of 11 new monitoring wells in January through March 2007. Each monitoring well was constructed to allow for both soil vapor and groundwater sampling. Selected soil samples were collected from the borings and submitted for laboratory analysis for VOCs.

Quarterly groundwater sampling events were conducted in October 2006 and January 2007. Groundwater samples were also collected from the newly installed wells. Groundwater samples were submitted for laboratory analysis for chlorinated VOCs.

GEI collected soil vapor samples from the 11 newly installed monitoring wells in January, February, and March 2007. Soil vapor samples were submitted for laboratory analysis for chlorinated VOCs.

Chlorinated VOCs were not detected above the laboratory reporting limits in the groundwater samples collected in the wells at the mid-point of Dell Street and at the intersection of Dell and Glen Streets. Chlorinated VOCs were detected in very low concentrations in the soil vapor at these locations. Based on these data, it is GEI's opinion that chlorinated VOCs are not present in the subsurface in groundwater, and do not have the potential to migrate via soil vapor into buildings, on Dell Street.

### **Planned Activities (RTN 3-23246 and RTN 3-26114)**

At the Capuano Center, GEI will continue to monitor the operation of the SSDS and indoor air quality. We will evaluate permanent system upgrades to the SSDS during July 2007, when school is no longer in session. The emphasis of the system upgrade will be establishing a permanent housing and location for the mechanical system.





GEI will continue to contact property owners to arrange for sub-slab soil vapor testing. Based on a comparison of the results of the soil vapor testing in each building to criteria described in IRA Plan Modification No. 1 (RTN 3-24116) dated April 12, 2007, GEI will: (1) take no further action; (2) conduct additional soil vapor testing or indoor air testing for confirmatory purposes; or (3) install an SSDS. GEI is currently arranging for the installation of SSDSs at 23 and 27 Tufts Street, and 35-37 Knowlton Street.

The piping and mechanical equipment will be installed as part of the SSDS at 50 Tufts Street. A floor coating system designed for concrete floors will also be applied to the entire floor slab to reduce the potential migration of VOCs through micro-cracks and pores in the concrete. GEI will conduct a monitoring program to evaluate the effectiveness of the SSDS system once it is operational.

GEI will be submitting a Phase II scope of work, in which we will identify locations for installation of additional groundwater monitoring wells to delineate the nature and extent of the release. GEI will incorporate the results of the testing conducted to date as IRA activities into its Phase II evaluation..



# 1. Introduction

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On behalf of UniFirst Corporation of Wilmington, Massachusetts, GEI prepared this Immediate Response Action (IRA) Status Report No. 1 and No.3. The work was conducted as part of IRA activities for the Site located at 50 Tufts Street in Somerville, Massachusetts (the Site) (Fig. 1). Based on the results of assessments conducted to date, the Site includes the 50 Tufts Street property (the Property), together with portions of properties in the neighborhoods east and immediately west of the Property, and the Michael E. Capuano Early Childhood Center (Capuano Center) located at 150 Glen Street in Somerville, MA (Figs. 1 and 2). The Property is approximately 51,111 square feet and developed with an approximately 20,594-square-foot, one-story, masonry block building. The majority of the building is warehouse space, and a small portion is office space.

The purpose of these combined IRA Status Reports is to provide the results of IRA Activities conducted between September 28, 2006 and March 31, 2007, including:

- Indoor air sampling, sub-slab soil vapor sampling, and remediation activities conducted at the Capuano Center.
- Indoor air sampling and sub-slab soil vapor sampling conducted at residences and buildings in the vicinity of the Property.
- Indoor air sampling, sub-slab soil vapor sampling, and remediation activities at the Property.
- Subsurface investigations in the vicinity of the Property.

## 1.1 Background

The Massachusetts Department of Environmental Protection (DEP) assigned Release Tracking Numbers (RTNs) 3-23246, 3-24358, 3-24376, and 3-26114 to reported releases associated with the Site. The Site is currently classified as Tier IC. Three of the RTNs for the Site (3-23246, 3-24358, and 3-24376) were consolidated under RTN 3-23246 at the time the Tier I C permit application was submitted to DEP on June 16, 2006. DEP assigned RTN 3-26114 to the Site on August 1, 2006, in connection with indoor air sampling in nearby residences. For purposes of administrative convenience, DEP has requested that response actions conducted outside the boundaries of the Property be performed and reported under RTN 3-26114.

Previous submittals by UniFirst that document IRA activities at the Site since January 2006 include:

- “IRA Plan, 50 Tufts Street, Somerville, Massachusetts, RTNs 3-23246, 3-24358 and 3-24376,” dated January 9, 2006.





- “IRA Status Report No. 1, 50 Tufts Street, Somerville, Massachusetts, RTNs 3-23246, 3-24358 and 3-24376,” dated May 9, 2006.
- “Phase I, Initial Site Investigation, and Tier Classification, 50 Tufts Street, Somerville, Massachusetts, RTNs 3-23246, 3-24358 and 3-24376,” dated June 16, 2006.
- “Interim IRA Status Report and IRA Plan Modification, 50 Tufts Street, Somerville, Massachusetts, RTNs 3-23246, 3-24358 and 3-24376,” dated June 27, 2006.
- “Imminent Hazard Retraction, 50 Tufts Street, Somerville, Massachusetts, RTN 3-26114,” dated September 21, 2006.
- “IRA Plan Modification No. 2, 50 Tufts Street, Somerville, Massachusetts, RTN 3-23246,” dated September 21, 2006.
- “IRA Status Report No. 2 and Plan Modification No. 3, 50 Tufts Street, Somerville, Massachusetts, RTN 3-23246,” dated November 13, 2006.
- “IRA Plan Modification No. 4, 50 Tufts Street, Somerville, Massachusetts, RTNs 3-23246 and 3-26114,” dated February 22, 2007.

A detailed Site description and a summary of the history of releases and response actions conducted at the Site are documented in the above listed reports.

## 1.2 Contact Information

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## 1.3 Purpose

The purpose of this submittal is to provide a description and the results of IRA activities conducted between September 28, 2006 and March 31, 2007, including:

- Indoor air and sub-slab soil vapor sampling at the Capuano Center.
- The installation of a sub-slab depressurization system (SSDS) at the Capuano Center in January and February 2007.
- Post-SSDS activation indoor air monitoring, and testing of the SSDS influent and effluent VOC concentrations at the Capuano Center for February and March 2007.
- Third quarter (October 2006) indoor air sampling conducted along Tufts Street.



- Fourth quarter (December 2006) indoor air sampling conducted along Tufts Street.
- Indoor air sampling conducted along Dell, Knowlton, Franklin, and Alston Street in January and February 2007.
- Obtaining access and conducting sub-slab soil vapor testing within the area potentially within the Site, initiated February and March 2007 (Table 1).
- Indoor air testing and sub-slab soil vapor sampling at 50 Tufts Street.
- Remediation activities at 50 Tufts Street, including initiating the installation of an SSDS in March 2007.
- Subsurface investigations conducted between January and March 2007.
- Third quarter (October 2006) groundwater sampling at the Site.
- Fourth quarter (January 2007) groundwater sampling at the Site.
- Soil vapor sampling at the Site from January through March 2007.

## **1.4 Submittals**

An IRA Transmittal Form (BWSC105) for both RTNs (3-23246 and 3-26114) associated with the Site was submitted through eDEP on May 9, 2007, and copies are in Appendix A.

## **1.5 Public Involvement**

To inform City of Somerville officials and residents about activities associated with the Site, UniFirst, the City, and GEI held several community meetings beginning on March 14, 2006. Subsequent meetings were held on December 21, 2006, February 6, 2007, and February 26, 2007. GEI also attended the City Aldermen meetings on November 21, 2006 and December 13, 2006. Agendas and attendance lists for public meetings are included in Appendix B. In addition, GEI established local public repositories of key documents at the Somerville Central Public Library and at the City of Somerville Clerk's Office.

Individual property owners have been provided copies of the laboratory testing results of samples collected on their properties along with the BWSC-123 Form. Copies of the letters were provided to DEP at the time they were mailed to the owners.





## **2. Capuano Center IRA Activities (RTN 3-26114)**

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### **2.1 Introduction**

GEI evaluated indoor air at the Capuano Center in December 2006 by collecting indoor air samples for laboratory testing for chlorinated VOCs. Based on the results of the indoor air testing, GEI and Environmental Health and Engineering (EH&E), Newton, Massachusetts, then conducted response actions at the Capuano Center.

The IRA activities at the Capuano Center included:

- Evaluating the potential for chlorinated VOCs to be present in indoor air.
- Mitigating chlorinated VOCs in indoor air by making adjustments to the heating, ventilation and air conditioning (HVAC) system so that it would operate in accordance with its design specifications.
- Reducing the potential migration of sub-slab vapor to indoor air by sealing unintended air transfer pathways into the unit ventilators (UVs) in selected classrooms.
- Reducing the potential migration of sub-slab vapor by installing an SSDS.
- Monitoring the effectiveness of the mitigation measures.

Indoor air sampling indicates that the mitigation measures were successful in eliminating chlorinated VOC intrusion from the subsurface. The information presented below describes the sampling events, sampling procedures and methods, laboratory analysis results and means of waste disposal.

### **2.2 Summary of Indoor Air and Sub-Slab Sampling and Laboratory Testing**

GEI collected indoor and outdoor air samples at the Capuano Center during several sampling events from December 2006 to March 2007. GEI also collected sub-slab soil vapor samples from monitoring points installed as part of the SSDS.

Indoor and outdoor air samples were typically collected in 6-liter summa canisters over a 4-hour period. Sub-slab vapor samples were typically collected in 6-liter summa canisters over a 1-hour period.

GEI submitted the summa canisters to Accutest Laboratories (Accutest) of Marlborough, Massachusetts for laboratory analysis for VOCs by the U.S. Environmental Protection Agency (EPA) Method TO 15 with a modified analytes list.



The locations of indoor and outdoor air samples collected from December 27, 2006 through March 31, 2007 at the Capuano Center are shown in Figures 4 through 11. Results of indoor and outdoor air sampling are in Tables 2 and 3, respectively. The laboratory data reports are in Appendix C.

The locations of the sub-slab vapor monitoring points are shown in Figures 9 and 10. Results of sub-slab vapor monitoring point sampling are in Table 4 and the laboratory data reports are in Appendix D.

### **2.2.1 HVAC Evaluation**

Prior to the initiation of the indoor air sampling program, personnel from EH&E evaluated and optimized the HVAC system. The HVAC system was adjusted so that it would operate in accordance with its design specifications, resulting in the building operating under positive pressure. Details of the EH&E's activities are summarized in Appendix E.

### **2.2.2 Initial Indoor Air Sampling (December 2006)**

During school vacation, on December 27 and 28, 2006, GEI collected air samples in four classrooms at the Capuano Center (Classrooms 101, 108, 125, 146) and two exterior locations. Sample locations for December 27 and 28, 2006 are shown in Figures 4 and 5, respectively.

### **2.2.3 Indoor Air Sampling (January 2007)**

GEI collected three additional rounds of air sampling on January 2, 6, and 13, 2007, to further evaluate:

- Indoor air quality at the Capuano Center.
- Alterations made to the HVAC system to reduce the migration of vapors into indoor air.

Locations of samples collected in January 2007 are shown in Figures 6, 7, and 8.

#### **2.2.3.1 January 2, 2007**

On January 2, 2007, GEI collected indoor air samples in Classrooms 138, 142, 146, and at the two outdoor locations previously sampled in December 2006 (Fig. 6).

#### **2.2.3.2 January 6, 2007**

EH&E inspected and adjusted the Capuano Center's HVAC system so that it would operate in accordance with its design specifications, resulting in the building operating under positive pressure. On January 6, 2007, after adjustments to the HVAC system, GEI collected indoor air samples in Classrooms 121, 122, 137, 138, 141, 142, 145, 146, and the Cafeteria. GEI collected one outdoor air sample on the northeast side of the Capuano Center near the soccer field (Fig. 7).





In addition to the samples collected in canisters, GEI collected 3-liter tedlar bag samples in Classrooms 121, 127, 133, 134, 138, 142, 145A, 146, 146A, at the soccer field, near a floor drain in the kitchen, and in the elevator shaft (Fig. 7). Environmental Services Network (ESN) of Scarborough, Maine, screened these samples for chlorinated VOCs using an on-Site portable gas chromatograph (GC). The GC field screening reports are in Appendix E.

#### **2.2.3.3 January 13, 2007**

On January 13, 2007, GEI conducted indoor air testing in Classrooms 126, 134, 136, 138, and 144 to confirm previous indoor air sampling results and evaluate soil vapor mitigation options (Fig. 8).

#### **2.2.4 Pre-SSDS Installation Sampling (February 2007)**

In response to the detection of PCE in three classrooms (Classrooms 138, 142 and 146) and their associated resource rooms, GEI designed and installed a SSDS along the southern wing of the Capuano Center. The SSDS was installed in January 2007. Sub-slab sampling points were installed within the building as part of the SSDS. Prior to the activation of the SSDS, on February 1, 2007, GEI collected three sub-slab soil vapor samples from Restrooms 137A, 142A, and 146A. Sampling locations are in Figure 9.

#### **2.2.5 Post-SSDS Installation Sampling (February 2007)**

The SSDS was activated on February 1, 2007. One week later, on February 7, 2007, GEI collected indoor air samples from Classrooms 122, 126, 134, 138, 142, and 146. On February 8, 2007, GEI also collected one round of sub-slab soil vapor samples from Restrooms 137A, 142A, and 146A, one sample from the SSDS effluent, and two outdoor air samples from the roof downwind of the system exhaust stack (Fig. 10).

#### **2.2.6 Post SSDS Installation Sampling (March 2007)**

One month after activation of the SSDS, on March 8, 2007, GEI collected indoor air samples from Classrooms 126, 138, 141, 142, and 146. GEI also collected two outdoor air samples on the roof downwind of the system exhaust stack, and one sample from the effluent sample port in the blower enclosure. Sample locations are in Figure 11.

#### **2.2.7 Work Plan and Quality Assurance Project Plan**

The air sampling was conducted in general conformance with the project Work Plan and Quality Assurance Project Plan (QAPP) dated April 6, 2006 submitted to DEP for indoor air sampling at residences near the Property. The Work Plan and QAPP specify general sampling and data evaluation protocols and procedures to be followed. Copies of the Work Plan and the QAPP were provided in IRA Status Report No.1 dated May 9, 2006.



No significant deviations from the QAPP occurred during the reporting period covered by these IRA Status Reports. The few minor deviations that did occur typically involved documentation of the sampling (e.g., no photos were taken following the completion of the air sampling).

### **2.2.8 Indoor Air Sampling - Pre-Sampling Survey**

GEI conducted a pre-sampling survey at the Capuano Center, before the first indoor air sampling event on December 27, 2006. No material was removed from the Capuano Center prior to sampling. However, GEI noted chemicals of concern or material in plain view that may have potentially been off-gassing analytes being tested for in the samples. GEI also documented general building construction and conditions at the time of sampling. Copies of the surveys are in Appendix F.

### **2.2.9 Air Sampling Quality Control**

#### **2.2.9.1 Air Sampling – Checklist and Methods**

Air samples were collected using polished, stainless-steel, evacuated canisters (summa canisters) and regulators provided by Accutest. Each canister was certified clean by Accutest, and copies of the certifications are in Appendix C.

Sampling equipment was placed in the sampling location after completing an Air Sampling Checklist. Copies of the completed checklists are in Appendix F.

The regulator was attached to the canister at the location of the testing, and the pressure gauge reading was recorded. The canister was elevated so that the “candy cane” air inlet was approximately 3 to 5 feet above the floor. The canister position in each classroom was photographed. Copies of photographs are in Appendix F. The laboratory set flow regulator was subsequently turned on and the time recorded. The regulator was turned off after approximately 4 hours, and the time and final pressure gauge reading was recorded.

#### **2.2.9.2 Air Sampling – Duplicates**

Duplicate air samples were collected during indoor air sampling events at the Capuano Center on December 28, 2006 (Classroom 126), January 13, 2007 (Classroom 138), February 7, 2007 (Classroom 146), and March 8, 2007 (Classroom 138). Each set of duplicate air samples was created by using a “T-splitter” and tubing attached to two canisters so that both canisters were drawing air from the same sample port.

In accordance with the QAPP, the duplicate air samples (*i.e.*, both canisters from each event) were submitted “blind” to Accutest for testing. The purpose of these duplicates is to evaluate the ability of the laboratory to accurately replicate testing results. In each case, there was excellent agreement between the testing results for both canisters for the duplicate air samples submitted to Accutest.





In addition to the duplicate sampling and testing identified above, one of the air sample canisters collected from Classroom 138 on January 13, 2007, and the air sample canister collected from Classroom 144 on January 13, 2007, were submitted to a second laboratory (Alpha Woods Hole Labs) for testing. The purpose of these duplicate tests is to evaluate the reproducibility of the test results between the two laboratories.

- There was excellent agreement between the Accutest and Alpha testing results for the air sample collected from Classroom 144.
- Agreement between the Accutest and Alpha testing results for the sample collected from Classroom 138 was not as good; the relative percent difference (RPD) for PCE was 48% and the RPD for TCE was 25%. The acceptance criteria as identified in the QAPP for RPD is <25%. Individually, the analysis performed by Accutest and Alpha meet the method performance criteria. However, while the percent relative standard deviation (%RSD) for Alpha's response factors meet the method criteria of <30%, there is substantial variability in the response factors exhibited by Alpha's PCE curve and this variability may account for the difference between the Accutest and Alpha tests results. In GEI's opinion, this does not materially impact the usability of the data.

#### **2.2.9.3 Air Sampling - Outdoor Samples (December 2006 and January 2007)**

A total of six outdoor air samples were collected during the air sampling events on December 27 and 28, 2006, and January 6, 2007. GEI personnel watched the canister intermittently throughout the 4-hour collection period to prevent tampering. The outdoor air samples were collected to provide a baseline for comparison between indoor and outdoor air conditions.

One outdoor air sample (045162-150 Glen-O-1A) canister was attached to a fence outside of Classroom 126 (Appendix F) on December 27, 2006. A second sample (045162-150 Glen-O-1B) was collected at the same location the next day, December 28, 2006, and during the sampling event on January 6, 2007.

One outdoor air sample (045162-150 Glen-O-2A) canister was attached to the fence outside of the day care center at the Capuano Center (Appendix F) on December 27, 2006. A second sample (045162-150 Glen-O-2B) was collected at the same location the next day, December 28, 2006, and during the sampling event on January 6, 2007.

#### **2.2.9.4 Air Sampling - Trip Blank**

A trip blank sample was submitted for laboratory analysis to confirm that VOC contamination of the sampling vessels did not occur during the transport of the canisters to and from the sampling Site and the laboratory. The trip blank was left at each of the sampling locations for a small amount of time so that each location would be represented. The trip blank was also transported with the other summa canisters that were used to sample indoor and outdoor air. It was partially filled with inert clean gas upon return to the laboratory and then analyzed for VOCs.



Chlorinated VOCs were not detected above the laboratory detection limit in the trip blank summa canister samples.

#### **2.2.10 Meteorological Conditions (December 2006)**

During the air sampling events outdoor meteorological measurements were made with a portable barometer and thermometer. These measurements are recorded in the Air Sampling Checklists in Appendix F.

#### **2.2.11 Indoor Air Testing**

The air samples were submitted to Accutest for laboratory analysis by EPA Method TO-15. The EPA Method TO-15 was modified to report the following analytes potentially associated with the Site:

Chloroethane	cis-1,2-Dichloroethylene
Carbon Tetrachloride	1,1,1-Trichloroethane
1,1-Dichloroethane	1,1,2,2-Tetrachloroethane
1,1-Dichloroethylene	1,1,2-Trichloroethane
1,2-Dichloroethane	Tetrachloroethylene (PCE)
trans-1,2-Dichloroethylene	Trichloroethylene (TCE)
	Vinyl Chloride

#### **2.2.12 Sub-Slab Soil Vapor Testing**

The soil vapor samples from the Capuano Center were submitted to Accutest for laboratory analysis by EPA Method TO-15. Accutest tested the vapor samples for the same analyte list as the indoor air sample with the following additional compounds:

Acetone	Tetrahydrofuran (THF)
Methyl-ethyl ketone (MEK)	

The purpose of testing for these additional compounds was to evaluate the effects of VOCs in polyvinyl chloride (PVC) glue used to seal and connect the extraction points, sub-slab soil vapor monitoring points, and manifold piping of the SSDS.

### **2.3 Summary of Soil Sampling at Capuano Community Garden**

In response to a request made by the Somerville Board of Aldermen, GEI collected two surface soil samples on March 30, 2007, from the community garden located northeast of the Capuano Center on Franklin Street.

GEI collected the soil sample using a hand auger and garden trowel and submitted it to Accutest for laboratory analysis for chlorinated VOCs. The soil sample was collected in native material at a depth of approximately 2.5 ft., which is just below the layer of imported organic soil. The





approximate soil sampling locations are shown in Figure 12. Validated laboratory results are not currently available, but will be presented in the next IRA Status Report.

## **2.4 Mitigation**

To address the potential pathway of soil vapor intrusion into indoor air at the Capuano Center, the following activities were conducted:

- Temporarily vacated three classrooms.
- Adjusted the HVAC system.
- Sealed wall and floor penetrations behind classroom Unit Ventilators.
- Installed a SSDS.

### **2.4.1 Relocation of Classes**

Indoor air testing conducted during the December 2006 school vacation identified PCE in Classrooms 138, 142 and 146 at concentrations above the laboratory reporting limits. The Somerville School Superintendent, Anthony Pierantozzi, decided to vacate those classrooms while additional investigation and mitigation activities proceeded. Students and teachers from the three classes were temporarily relocated to other areas of the Capuano Center building

Following mitigation, indoor air testing indicated chlorinated VOCs were not detected at concentrations greater than the laboratory reporting limits. On February 26, after the February school vacation, Superintendent Pierantozzi asked students and teachers to return to Classrooms 138, 142 and 146.

### **2.4.2 HVAC System Investigation**

From December 2006 through February 2007, EH&E performed a comprehensive investigation of the HVAC system at the Capuano Center. The investigation included a review of the building's engineering and construction details, inspection and testing of its operating HVAC system, and field screening for chemicals using a photo-ionization detector (PID). A report of EH&E's activities is in Appendix E.

EH&E evaluated and oversaw modifications to the HVAC system. Adjustments to the HVAC system enabled the building to operate under positive pressure, as it was designed to do. Gauges to measure pressure within the building were installed in several locations to monitor pressure relationships within the Center.

### **2.4.3 Unit Ventilator Sealing**

Testing conducted by EH&E of the UVs indicated that they were drawing air and associated vapors from the exterior wall cavity through wall penetrations within and behind the UV cabinets. A cross section of the UV design is shown in Figure 14. To reduce this infiltration and





to prevent short circuiting of the SSDS, these penetrations were sealed. The UVs in Classrooms 138, 142, and 146 were removed from the wall and the penetrations were identified and sealed between January 29 and February 1, 2007. The UVs were reinstalled and were fully operational on February 1, 2007. The UVs in Classrooms 122, 126, and 134 were removed from the wall and penetrations sealed between February 20 and 22, 2007. The UVs were reinstalled and were fully operational on February 22, 2007.

#### **2.4.4 Sub-Slab Depressurization System (SSDS) Installation**

GEI designed and oversaw the installation of an “interim” SSDS in the south wing of the Capuano Center to prevent the migration of VOC vapors from beneath the floor slab into indoor air. The system was installed under six classrooms on the eastern end of the Capuano Center (Classrooms 122, 126, 134, 138, 142, and 146). The system is called ‘interim’ because the mechanical equipment is installed in a small temporary enclosure on the southern wing of the Capuano Center and will operate for approximately six months until a permanent system can be designed and installed. Piping configurations for the SSDS are shown in Figure 15 and a system schematic is in Figure 16.

On January 27 and 28, 2007, GEI observed T.Ford of Georgetown, Massachusetts construct and install the SSDS. The installation of the SSDS consisted of the following key elements:

- Excavation of a 2-foot deep trench adjacent to the foundation of the building from Classroom 122 to Classroom 146. The trench was approximately 3-feet wide and required removal of the paved sidewalk.
- Coring 3-inch diameter holes through the foundation wall from outside of the building that penetrated approximately 6-feet into the fill beneath the concrete floor slab.
- Inserting sections of 2-inch diameter PVC pipes into the newly cored holes and connecting the pipes to 3-inch diameter PVC manifold pipes in the trench on the outside of the building. The piping penetrations were sealed with expandable foam insulation and hydraulic cement. A trench and piping penetration detail is in Figure 17.
- Running three manifold pipes (servicing two classrooms each) along the outside of the building below ground in the trench to a temporary enclosure that houses a 1.5-horsepower electric blower. The exhaust from the blower is discharged 8-feet above the roofline of the building through a vent pipe attached to the exterior wall of the building. Temporary power is provided to the enclosure from the Capuano Center. The temporary enclosure is a lockable, rigid plastic garden shed.
- Installing a blower that draws vapors from beneath the floor slab and operates 24-hours per day. The control panel for the blower includes an autodialer that will automatically notify GEI if the system shuts down.
- Backfilling the trench with excavated soil after the piping was installed. Pavement was replaced in areas over the trench on February 21, 2007.



- Installing valves and sampling ports at each piping penetration that are accessible through road boxes similar to those used for lawn irrigation systems.
- Installing valves and sampling ports at each of the three manifold pipes, the combined influent pipe, and effluent pipe in the temporary blower enclosure.
- Installing monitoring points through the floor slab inside the building in six of the classroom restrooms; 122A, 126A, 133A, 137A, 142A, 146A. Monitoring points were installed to measure the vacuum created by the blower. The monitoring points consist of 3-inch diameter holes through the tile and concrete floor that are fitted with flush-mounted bolted covers. Sampling ports installed inside the holes allow for periodic collection of sub-slab soil vapor samples that will be used to evaluate the effectiveness of the system. A sub-slab soil vapor monitoring point detail is in Figure 18.

The SSDS was activated on February 1, 2007 and has been operating continuously since that time. Construction activities such as paving, and minor mechanical adjustments to the blower enclosure occurred after start-up of the system; however, none of these activities affected the system's operation.

#### **2.4.5 SSDS Operation Monitoring**

As of March 31, 2007, GEI conducted weekly mechanical inspections, and one round of monthly system monitoring after the activation of the SSDS. The system was operating normally during all GEI site visits to date. Field Monitoring Forms and Weekly Mechanical Inspection Logs are in Appendix G. Graphs showing total VOC concentrations in the system versus time are in Appendix G.

##### **2.4.5.1 SSDS Off-gas VOC Monitoring**

The regulatory requirements for off-gas treatment for remedial air emissions are in DEP's Policy No. WSC-94-150, "Off-Gas Treatment of Point-Source Remedial Air Emissions." Off-gas contaminant treatment is not required for SSDSs that produce a total air emission rate of volatile contaminants of less than 100 pounds per year (lbs/yr). Before installing the SSDS, we estimated that the system would produce significantly less than 100 lbs/yr of VOCs and therefore did not install off-gas treatment processes.

On February 8, 2007 an air sample from the SSDS discharge pipe was collected in a summa canister and submitted for laboratory analysis by method TO-15. The results are summarized on Table 3. The total concentration of VOCs in the SSDS discharge was 1.68 milligrams per cubic meter (mg/m<sup>3</sup>), or 459 ppbV. Since there is no air dilution valve incorporated into the blower assembly, the flow rate estimated for the discharge pipe also represents the total flow extracted from the sub-slab. Based on the measured system flow rate of 103 cubic feet per minute (cfm) and the results of the discharge sample collected on February 8, 2007, the estimated sub-slab extraction rate for VOCs is approximately 0.0155 pounds per day (lbs/day) or 5.7 lbs/yr. Based







on this estimated annual emission rate, off-gas contaminant treatment is not required by DEP Policy No. WSC-94-150.

GEI also used PID monitoring of the treatment system on approximately a weekly basis as a screening tool to track relative changes for the system. PID monitoring results for this monitoring period are presented in Appendix F. Since the PID is calibrated to a one-point, 10-ppm gas standard, PID results around 1 ppm or below were considered estimated. Furthermore, PID data for the treatment system were considered approximate due to the detector's sensitivity to humidity and temperature. The PID results and the maximum system flow rate of 108 cfm measured during the recent monitoring period corroborates the results from the summa canister sample collected on February 8, 2007 and indicate that the estimated annual discharge rate for the SSDS, prorated from the recent monitoring period data, is significantly less than 100 lbs/yr.

GEI will continue to monitor the SSDS discharge with a PID periodically to evaluate trends in sub-slab VOC concentrations and to confirm that off-gas treatment is not required.

#### **2.4.5.2 Pre-System Activation Monitoring**

On January 31, 2007, one day before the SSDS was activated; VOCs were measured with a ppb-Rae and pressure was measured with a manometer at exterior extraction points and at interior sub-slab soil vapor monitoring points.

VOC concentrations ranged from 5,000 parts per billion (ppb) to 437,000 ppb at exterior extraction points, and from 412 ppb to 3,400 ppb at interior sub-slab soil vapor monitoring points. Pressure readings at extraction points ranged from 0.00 inches of water to -0.03 inches of water, while pressures at sub-slab soil vapor monitoring points ranged from 0.00 inches of water to -0.02 inches of water.

GEI personnel also collected sub-slab soil vapor samples into summa canisters for laboratory analysis for VOCs in restrooms 137A, 142A, and 146A prior to system activation. Results of the testing are in Table 4.

#### **2.4.5.3 Initial System Monitoring**

For one week after system activation, GEI measured the following on a daily basis:

- VOC concentrations using a ppb-RAE at each sub-slab soil vapor monitoring point, extraction point, and at the combined influent and effluent pipes in the temporary blower enclosure.
- Pressure using a manometer at each sub-slab soil vapor monitoring point, extraction point, and at the combined influent and effluent pipes in the temporary blower enclosure.

In the week following activation, maximum VOC concentrations in the extraction pipes decreased from 97,000 ppb to 34 ppb, and maximum VOC concentrations at sub-slab soil vapor



monitoring points decreased from 1,244,000 ppb to 786 ppb. VOC concentrations in the combined influent and in the effluent pipe were variable throughout the week; however, overall VOC concentrations decreased.

Pressure readings showed vacuum conditions at extraction points and remained consistent throughout the week, ranging from approximately -0.19 inches of water to -0.38 inches of water. Pressure readings at sub-slab soil vapor monitoring points also remained consistent throughout the week and generally ranged from 0.00 to -0.02 inches of water indicating little or no vacuum. Pressures at the combined influent and at the effluent pipes were consistent, ranging from -0.63 to -0.67 inches of water and 0.48 to 0.59 inches of water, respectively.

GEI derived flow rates in the combined influent pipe after February 6, 2007 using measurements made with a Pitot tube and manometer. Flow rates were consistent throughout the three days, ranging from 99 to 108 cfm.

On February 7, 2007, GEI collected indoor air samples for laboratory analysis for VOCs in 6-liter summa canisters over a four hour period in Classrooms 122, 126, 134, 138, 142, and 146. GEI collected sub-slab soil vapor samples from restrooms 137A, 142A, and 146A on February 8, 2007. The results of the indoor air and sub-slab soil vapor sampling are in Tables 1 and 4, respectively.

#### **2.4.5.4 Weekly Monitoring**

GEI conducted weekly mechanical inspections of the system shortly after its activation. Weekly mechanical inspections included:

- Ensuring that the blower enclosure was secure.
- Checking for condensate accumulation and removing it from the blower if necessary.
- Collecting pressure measurements in the system manifold pipes, combined influent pipe, and effluent pipe using a manometer calibrated to 0.001 inches of water.
- Collecting VOC measurements with a ppb-RAE from the system manifold pipes, combined influent pipe, and effluent pipe.
- Deriving system flow rates from pressure differentials measured in the combined influent pipe using a pitot tube and manometer.

#### **2.4.5.5 Monthly Monitoring**

GEI conducted one round of monthly monitoring after the activation of the SSDS. Monthly monitoring consists of:

- Collecting indoor air samples from Classrooms 126, 138, 141, 142, and 146 in a summa canister and submitting the samples for laboratory analysis.





- Measuring VOC concentrations using a ppb-RAE at each sub-slab soil vapor monitoring point, extraction point, and at the combined influent and effluent pipes in the temporary blower enclosure.
- Measuring pressure using a manometer at each sub-slab soil vapor monitoring point, extraction point, and at the combined influent and effluent pipes in the temporary blower enclosure.

#### **2.4.5.6 March 2007**

The monitoring for March 2007 showed pressure readings consistent with measurements taken in February. VOC concentrations decreased overall in exterior extraction points and sub-slab soil vapor monitoring points. The average flow rate for March 2007, 103 cfm, remained consistent with the last flow rate measured in February 2007, 106 cfm. The results of the indoor air sampling are in Table 1.

## **2.5 Investigation-Derived Waste**

No investigation derived waste (IDW) was generated during IRA activities at the Capuano Center. However, T.Ford Construction, Inc. (T.Ford) did generate excess soil from the SSDS shallow pipe trench excavation. On January 28, 2007, T.Ford transported the excess soil to its yard located at 118 Tenney Street in Georgetown, Massachusetts, where it was temporarily stockpiled on poly sheeting pending the results of laboratory analysis by Accutest for the disposal criteria listed in Table 5. Laboratory testing did not detect VOCs, and the other tested analytes were not detected above the MCP Reportable Concentrations (RCS-1). Consequently, the soil was characterized as surplus material, and T.Ford used the soil as ground cover in the upper storage yard at their facility.





## **3. Residence IRA Activities (RTN 3-26114)**

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### **3.1 Introduction**

Indoor air testing has been conducted at numerous homes in the vicinity of the Property. Indoor air testing was initiated by GEI in the homes along the southern portion of Tufts in March 2006 as part of the initial IRA investigation. The final two rounds of a year long quarterly indoor air sampling program were collected in September/October 2006 and December 2006 in homes along the southern portion of Tufts Street (9, 11/13, 19, 23, 25 and 27).

Following several community meetings, and at the request of the owners, indoor air testing was conducted in homes or buildings on Alston Street, Dell Street, Franklin Street, Knowlton Street and Tufts Street.

Based on previous and recent groundwater, soil vapor and indoor air testing results, GEI identified a several block area near the Property for evaluation of soil vapor intrusion as a potential exposure pathway, to be mitigated with SSDS as a permanent mitigative measure if warranted.

### **3.2 Summary of Indoor Air Sampling**

GEI performed quarterly indoor air sampling at residences on Tufts Street in October and December 2006. GEI conducted additional sampling in homes on Dell, Knowlton, and Franklin Streets, and from commercial properties at 32 and 40 Alston Street in January and February 2007.

Results from previous rounds of indoor air testing conducted by GEI in 2006, along with the results of DEP's indoor air sampling conducted in 2005, are in Table 6. A summary table of PCE concentrations in indoor air samples is in Table 7. Outdoor air testing results are summarized in Table 8. The laboratory data report is in Appendix C.

Results of indoor air testing in January and February 2007 are summarized in Tables 9 and 10, respectively.

#### **3.2.1 Quarterly Sampling (September/October 2006)**

GEI collected indoor air samples from 9 and 27 Tufts Street on September 28, 2006; 11/13, 17, 23, and 25 Tufts Street on October 2, 2007; and 19 Tufts Street on October 10, 2006 as part of third quarter indoor air sampling. GEI collected two outdoor air samples per day during the September 28 and October 2, 2006 sampling events. On October 2, 2006, GEI also collected four additional outdoor air samples (Fig. 12).



### **3.2.2 Quarterly Sampling (December 2006)**

GEI collected indoor air samples on December 15, 2006 at 9, 11/13, 19, and 25 Tufts Street. On December 18, 2006, GEI collected samples from 17, 23, and 27 Tufts Street. GEI also collected two outdoor samples on each day of sampling (Fig. 12).

### **3.2.3 Additional Sampling (January and February 2007)**

Following several community meetings, and at the request of the owners, indoor air testing was conducted in homes or buildings on Alston Street, Dell Street, Franklin, Knowlton Street and Tufts Street.

#### **3.2.3.1 January 2007**

On January 22, 2007, GEI collected indoor air samples from residences at 9, 10, 14, 16, and 22 Dell Street, and 31-33 Knowlton Street. On January 23, 2007, GEI collected samples from 6 Dell Street, 35-37 Knowlton Street, and from Unit 4 in the 60 Tufts Street building.

#### **3.2.3.2 January 2007**

On February 14, 2007, GEI collected indoor air samples from the residence at 91-93 Franklin Street, and from two commercial buildings located at 32 and 40 Alston Street.

### **3.2.4 Work Plan and Quality Assurance Project Plan**

The air sampling was conducted in general conformance with the project QAPP. No significant deviations from the QAPP occurred during the reporting period of this IRA Status Report. The minor deviations typically involved documentation of the sampling (e.g., no photos were taken following the completion of the air sampling). In GEI's opinion, none of these minor deviations affected the reliability of the data.

### **3.2.5 Indoor Air Sampling - Pre-Sampling Survey**

GEI did not conduct a detailed pre-sampling survey during the October and December 2006, indoor air quarterly sampling events and no materials were removed from the residences prior to sampling. However, where applicable, GEI noted chemicals of concern or materials in plain view that may potentially be off-gassing analytes that were being tested for in the samples, and recorded these observations on the pre-sampling checklists described below.

In January and February 2007, GEI did perform pre-sampling surveys at residences where indoor air sampling had never been conducted. Copies of the pre-sampling surveys are in Appendix F.





### **3.2.6 Air Sampling**

#### **3.2.6.1 Air Sampling – Checklist and Methods**

GEI collected air samples in general conformance with the Work Plan and QAPP. Air samples were collected using summa canisters and regulators provided by Accutest. Each canister was certified clean by Accutest, and copies of the certifications are in Appendix C.

The regulator was attached to the canister at the location of the testing, and the pressure gauge reading was recorded. The canister was elevated so that the “candy cane” air inlet was approximately 3 to 5 feet above the floor. The canister position in the room was photographed. Copies of photographs are in Appendix F. The laboratory set flow regulator was subsequently turned on and the time recorded. The regulator was turned off after approximately four hours, and the time and final pressure gauge reading recorded.

Sampling equipment was placed in the sampling location after completing an Air Sampling Checklist. Copies of the completed checklists are in Appendix F.

#### **3.2.6.2 Air Sampling – Duplicates**

GEI collected duplicate air samples at 17 and 19 Tufts Street in the basement on December 18 and 15, 2007, respectively. GEI collected a duplicate air sample at 9 Dell Street in the basement on January 22, 2007. GEI did not collect duplicate air samples on February 14, 2007 because of the small number of samples collected.

All duplicate air samples were created by using a “T-splitter” and tubing attached to both canisters, so that both canisters were drawing from the same port.

The duplicate samples were submitted “blind” to the laboratory in accordance with the QAPP. In general, the purpose of the duplicate is to evaluate the ability of the laboratory to accurately replicate testing results.

#### **3.2.6.3 Air Sampling - Outdoor Samples**

GEI collected outdoor air samples to evaluate the outdoor air conditions during indoor air testing at residences near the Property.

#### **3.2.6.4 September and October 2006**

A total of eight outdoor air samples were collected during the air sampling event in September and October 2006. GEI personnel watched the canisters intermittently throughout the four-hour collection period to prevent tampering.

- One outdoor air sample (045162-Tufts-O-1A) was collected into a canister attached to the fence on the northeast corner of the Property (Fig. 12) on September 28, 2006. Another



sample (045160-Tufts-O-1B) was attached to the fence in the same location on the next day of sampling, October 2, 2006.

- One outdoor air sample (045162-Tufts-O-2A) canister was attached to a tree in front of 17 Tufts Street (Fig. 12) on September 28, 2006. Another sample (045160-Tufts-O-2B) was collected at the same location on the next sampling day, October 2, 2006.
- One outdoor air sample (045162-Tufts-O-3A) canister was attached to a fence on the corner of Tufts and Cross Streets (Fig. 12) on October 2, 2006.
- One outdoor sample (045162-Tufts-O-4A) canister was attached to a fence outside of 10 Alston Street (Fig. 12) on October 2, 2006.
- One outdoor sample (045162-Tufts-O-5A) canister was attached to a fence on the corner of Franklin Street and Hadley Court (Fig. 12) on October 2, 2006.
- One outdoor sample (045162-Tufts-O-6A) canister was attached to a fence on the northeast end of Knowlton Street (Fig. 12) on October 2, 2006.

#### **3.2.6.5 December 2006**

A total of four outdoor air samples were collected during the air sampling event in December 2006. GEI personnel watched the canister intermittently throughout the four-hour collection period to prevent tampering.

- One outdoor air sample (045162-Tufts-O-1A) was collected into a canister attached to the fence on the northeast corner of the Property (Fig. 12) December 15, 2006. Another sample (045160-Tufts-O-1B) was attached to the fence in the same location the next business day, December 18, 2006.
- One outdoor air sample (045162-Tufts-O-2A) canister was attached to a tree in front of 17 Tufts Street (Fig. 12) on December 15, 2006. Another sample (045160-Tufts-O-2B) was collected at the same location the next business day, December 18, 2006.

#### **3.2.6.6 January 2007**

GEI collected two outdoor samples from the backyard of 14 Dell Street during the air sampling event in January 2007. GEI personnel watched the canister intermittently throughout the four-hour collection period to prevent tampering. One outdoor sample (045162-Dell-O-1A) was collected on January 22, 2007, and a second sample (045162-Dell-O-1B) was collected on January 23, 2007 (Fig. 12).

#### **3.2.6.7 February 2007**

GEI did not collect an outdoor sample on February 14, 2007 due to heavy precipitation in the area.





### **3.2.6.8 Air Sampling - Trip Blank**

A trip blank sample was submitted for laboratory analysis to demonstrate that volatile organic compound (VOC) contamination of the sampling vessels did not occur during the transport of the canisters to and from the sampling site and the laboratory. The trip blank was left at each of the sampling locations for a small amount of time so that each location would be represented. The trip blank was also transported with the other summa canisters that were used to sample indoor and outdoor air. It was partially filled with inert clean gas upon return to the laboratory and then analyzed for VOCs.

### **3.2.7 Meteorological Conditions**

During the air sampling events outdoor meteorological measurements were made using a portable manometer and thermometer. These measurements are recorded on the Air Sampling Checklist in Appendix F.

## **3.3 Sub-Slab Soil Vapor Sampling**

Based on previous and recent groundwater, soil vapor and indoor air testing results, GEI identified a several block area near the 50 Tufts Street property in which to evaluate vapor intrusion as a potential exposure pathway. The properties to be evaluated are listed on Table 1 and shown on Figure 19. The evaluation process is shown in Figure 20. In summary, it consisted of:

- Contacting individual property owners by mail to inform them of the potential for the indoor air of their property to be affected by soil gas vapor intrusion. A copy of each contact letter was previously provided to DEP.
- Inspecting each building to collect information about the basement, including the type and condition of the foundation and the building's heating and cooling system.
- During the inspection, installing one or two sub-slab monitoring points in the basement. These are installed by drilling a small hole (~3/4 inch diameter) through the basement slab and inserting tubing. The pressure beneath the slab is measured and a sample of the soil vapor from beneath the slab is collected for laboratory testing.

GEI initiated soil vapor sampling on March 12, 2007. By March 31, 2007, GEI had inspected and collected soil vapor samples from approximately 21 residences and other buildings in the vicinity of the Property. Figure 19 indicates the buildings sampled to date. Specific sub-slab soil vapor sample locations within each residence or building tested as of March 31, 2007 are shown in the site sketches of the Sub-slab Sampling Checklists in Appendix I.

Validated data for the sub-slab sampling events were not available by March 31, 2007 and will be reported in the next IRA Status Report submitted to DEP.



### 3.3.1.1 Sub-Slab/Soil Vapor Sampling – Surveys, Checklist and Methods

Prior to sample collection, GEI conducted a pre-sampling survey of each residence to identify VOC-containing materials in plain view and document basement conditions and construction. Copies of the pre-sampling surveys are in Appendix I. GEI also screened air in the basement with a PID as part of the survey. GEI did not remove any materials from basements prior to sampling.

Before installing sub-slab soil vapor sampling points and collecting soil vapor samples GEI also completed a Sub-Slab Sampling Checklist. Copies of the completed checklists are in Appendix I.

In buildings with concrete basement floor slabs, sub-slab soil vapor sampling points were installed by drilling a 2-inch diameter hole approximately 3 to 4-inches below the floor slab with a hand-held hammer drill. GEI personnel then placed a sub-slab soil vapor sampling point in the hole and cleared the sampling point tubing to remove any possible obstructions to soil vapor flow. A photograph of a typical sub-slab soil vapor sampling point is in Figure 21. The top of the sampling point was then sealed with hydraulic cement and left to cure for approximately 1 hour. After the cement had set, GEI personnel purged the sample port with an air pump for approximately 5 minutes. After purging was complete, GEI personnel collected the sub-slab soil vapor sample.

In buildings where the basement floor was dirt or there was not a concrete floor slab, GEI installed soil vapor sampling points. GEI installed the points by drilling an approximately 2-inch diameter hole approximately 3 feet below the basement floor. GEI then inserted a stainless steel soil vapor point and anchor attached to Teflon tubing into the hole. The annular space around the soil vapor point and tubing was then filled with Ottawa sand and sealed with hydrated bentonite powder. The finished soil vapor point resembled the sub-slab soil vapor point shown in Figure 21. After installation, GEI let the soil vapor point equilibrate for approximately 1 hour. After one hour, GEI purged the point using a portable air pump for approximately 5 to 10 minutes. After purging was complete, GEI personnel collected the soil vapor sample.

Soil vapor samples were collected using polished 6-liter stainless steel evacuated canisters (summa canisters) and regulators provided by Accutest.

The regulator was attached to the canister at the location of the testing, and the pressure gauge reading was recorded. The location of each sub-slab soil vapor sample point was photographed and recorded in a sketch on the Sub-slab Soil Vapor Sampling Checklist. Copies of photographs are in Appendix I. The laboratory-set flow regulator was subsequently turned on and the time recorded. The regulator was turned off after approximately one hour, and the time and final pressure gauge reading were recorded.





### **3.4 Indoor Air and Sub-Slab Soil Vapor Testing**

The air samples were submitted to Accutest for laboratory analysis by EPA Method TO-15. EPA method TO-15 was modified to report the analytes potentially associated with the Site as listed in Section 2.2.11.

### **3.5 Residential Air Purifiers**

Based on the results of indoor air testing, GEI installed indoor air purifiers at: 11/13 and 27 Tufts Street on September 28, 2006; 9, 17, 23 and 25 Tufts Street on October 2, 2006; 35/37 Knowlton on March 5, 2006; and 60 Tufts Street on March 6, 2007. A description of the air purifiers and specification sheets are included in IRA Plan Modification No. 1 dated April 12, 2007

### **3.6 Residential SSDS**

As of March 31, 2007, homeowners at 9, 11/13, 17, 19, 23, 25 and 27 Tufts Street and 35-37 Knowlton Street have been offered an SSDS to be installed in their homes. The owners of 23 and 27 Tufts and 35-37 Knowlton Street have agreed to have the systems installed and arrangements are currently being made.

The homeowners at 11/13 and 19 Tufts Street have refused to have an SSDS system installed in their homes. Ms. Irene Dale of the DEP contacted those homeowners and they reiterated their refusal to her. The owners at 9 and 25 Tufts Street have not yet agreed to have an SSDS installed in their homes. GEI has contacted the owner of 17 Tufts Street by mail to offer the installation of an SSDS, however, GEI has not be able to contact the owner of 17 Tufts Street by telephone to obtain access or arrange installation.

### **3.7 Dell Street**

Chlorinated VOCs were not detected above the laboratory reporting limits in the indoor air samples collected in the homes along Dell Street. Based on the indoor air testing results, along with groundwater and soil vapor test results from sampling points located along and upgradient of Dell Street, it is GEI's opinion that the indoor air quality in homes along Dell Street is not affected by the Site.

### **3.8 Investigation-Derived Waste**

GEI did not generate investigation derived waste during indoor air sampling and sub-slab soil vapor testing at the residences. Sub-slab soil vapor sampling points were above the water table and did not require dewatering. Soil and cement cuttings from sub-slab soil vapor sampling point installation were minimal and used as back-fill.



## **4. 50 Tufts Street IRA Activities (RTN 3-23246)**

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### **4.1 Introduction**

The building on the Property is currently vacant. Sanborn, Head & Associates (SHA) of Westford, Massachusetts, conducted indoor air sampling in the building on September 23, 2004, on behalf of the building tenant, Father & Son Moving and Storage (Father & Son). SHA concluded that the results of that sampling indicated an “Imminent Hazard,” as defined in 310 CMR 40.0950. UniFirst entered an access agreement with Somerville II, LLC (Somerville II), the current Property owner, in which it agreed to install an SSDS and take other mitigation measures sufficient to achieve a condition of no Imminent Hazard for a hypothetical commercial worker employed full time (40 hours per week) at the Property.

Installation of the SSDS was initiated on February 20, 2007. The following tasks were completed or were ongoing as of March 31, 2007.

- Installing Sub-Slab Monitoring Points
- Performing a sub-slab extraction diagnostic test
- Sealing floor slab joints and macro-cracks
- Installing the SSDS

### **4.2 Sub-Slab Monitoring Points**

GEI coordinated the installation of 10 sub-slab monitoring points for the SSDS on February 20, 2007. GEI observed Boston Concrete Drilling of Waltham, Massachusetts and T.Ford Construction, Inc. advance 10 cores through the building slab and install durable sub-slab monitoring points. The monitoring points have been used for ongoing measurements of sub-slab vapor pressure and sub-slab air quality and have provided data to support remedial design and assessment. During installation of the monitoring points, GEI personnel collected information about slab construction and sub-slab soil conditions. Several monitoring points that were installed were constructed to function as pilot-scale extraction points for sub-slab soil vapor.

### **4.3 Sub-Slab Extraction Diagnostic Test**

Between March 24 and 28, 2007, GEI conducted a diagnostic test to collect information about sub-slab air flow and vacuum distribution to assist with the design of the SSDS. A portable vacuum was used to extract sub-slab soil gas. GEI measured changes in sub-slab pressure and VOC concentrations during testing using a manometer and PID, respectively. The air flow rate and VOC concentration of the discharge were also measured. Details of the diagnostic test are





described in our memorandum dated April 13, 2007, which was included in IRA Modification No. 5 (RTN 3-23246) dated April 27, 2007. One sample of sub-slab soil vapor was collected in a canister and submitted for laboratory analysis for VOCs. A copy of the laboratory testing results is included in IRA Modification No. 5. Based on the results of these tests, the proposed spacing of the extraction points approximately 50 feet apart is appropriate and will provide overlapping vacuum influence areas when all extraction points are operating.

#### **4.4 Floor Slab Joints and Macro-Cracks**

The construction joints between the perimeter and interior foundation walls and the floor slab represented a significant potential pathway for migration of contaminated sub-slab vapor into indoor air. GEI estimated that the combination of construction joints, slab expansion joints, and several prominent cracks observed in the slab represented approximately 150 to 200 square feet of exposure to sub-slab soil. On March 21, 2007, T-Ford began cleaning the joints and cracks using mechanical equipment and sealing using a flexible sealant designed to fill active cracks and expansion joints. The cleaning and sealing is ongoing as of March 31.

#### **4.5 Sub-Slab Depressurization System**

Installation of the SSDS was initiated on March 21, 2007 and is on-going. The system piping is designed so that the system may be operated first in active and later in passive mode. The 22 interior slab penetrations were installed with 2-inch PVC piping connected to above-slab exhaust piping mechanically fastened to the adjacent wall or column. Piping in the office space extends to the ceiling, and then connects to manifold piping that runs along the ceiling joists of the warehouse to the proposed blower location in the southwest corner of the building. Manifold piping on the western wall of the building was extended to include the northern-most extraction points.



## **5. Subsurface Investigation (RTNs 3-23246 and 3-26114)**

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### **5.1 Previous Subsurface Investigations**

Previous subsurface investigations at the Site have included:

- In 2002, on behalf of Mr. Francis Margaglione, a prospective purchaser of the Property, Sanborn Head & Associates conducted an environmental due diligence investigation on the Property. SHA reportedly performed a subsurface exploration program consisting of the advancement of ten soil borings (SH-1 through SH-5, SH-B1, SH-B2, and SH-MW1 through SH-MW3), the installation of eight monitoring wells (SH-1 through SH-5, and SH-MW1 through SH-MW3), and the collection of soil and groundwater samples for laboratory analyses of VOCs (Fig. 22).
- In August 2004, on behalf of Atlantic National Trust, LLC, GeoInsight reportedly performed subsurface investigations at the Site consisting of the installation of two monitoring wells (GEO-1 and GEO-2) on the northern portion of the Property, four monitoring wells (GEO-3 through GEO-6) on the eastern side of Tufts Street, and two soil borings (Soil Boring-1 and Soil Boring-2) on the southern portion of the Property (Fig. 22). Groundwater was collected for laboratory analyses of VOCs.

Available information regarding these subsurface investigations was presented in the Phase I Report.

- During April through May 2006, GEI performed subsurface investigations at the Site consisting of the installation of one monitoring well (MW101) on Tufts Street across from the northern end of the Property, two monitoring wells (MW102 and MW103) on Morton Street, one monitoring well (MW104) in the grass near the intersection of Washington and Tuft Streets, and one monitoring well (MW105) on Cross Street near Alston Street (Fig. 22). Soil samples were collected during installation. Groundwater and soil vapor samples were collected for laboratory analysis for VOCs.

Available information regarding this subsurface investigation was presented in the IRA Status Report 2 dated November 13, 2006.

### **5.2 Summary of Subsurface Investigation**

GEI conducted subsurface investigations including:

- Installation of soil borings and monitoring wells





- Soil sampling
- Soil vapor sampling
- Groundwater level measurements
- Groundwater sampling

### **5.3 Soil Boring and Monitoring Well Installation**

Between January 4, 2007 and March 10, 2007, GEI observed Geosearch, Inc.(Geosearch) of Fitchburg, Massachusetts drill a total of 12 borings and complete them as groundwater monitoring wells at the Site. Monitoring well locations are shown in Figure 22. A summary of boring data and monitoring well construction is in Table 11. Boring logs and monitoring well installation reports are in Appendix J. The locations and elevations of the newly installed monitoring wells shown in Figure 22 were surveyed by BSC Group of Boston, Massachusetts on March 16 through 20, 2007.

On January 3 and 4, 2007, GEI observed Geosearch vacuum excavate seven soil boring locations (MW106, MW107, MW108, MW109, MW110, MW111, and MW112) to a depth of approximately six feet.

On January 5 and 8, 2007, GEI observed Geosearch advance seven Geoprobe® soil borings and install seven 2-inch-diameter monitoring wells in previously vacuum excavated locations (MW106, MW107, MW108, MW109, MW110, MW111, and MW112) at the Site. Geosearch advanced MW106 and MW107 to 21 feet, MW108 to 12 feet , MW109 to 15 feet, MW110 and MW111 to 16 feet, , and MW112 to 10 feet.

On February 13, 2007 GEI observed Geosearch vacuum excavate three soil boring locations (MW113, MW114, and MW115) to a depth of approximately six feet.

On February 15, 2007 GEI observed Geosearch advance three Geoprobe® borings and install three 2-inch diameter monitoring wells in the previously vacuum excavated locations. MW113 was advanced to a depth of 21 feet and MW114 to a depth of 20 feet.

Geosearch hit refusal at 17 feet while installing MW115. The monitoring well was reinstalled as MW115R at a depth of 25 feet using the hollow stem auger drilling method on February 21, 2007.

On March 10, 2007, GEI observed Geosearch vacuum excavate two soil boring locations (MW122A and MW116). Geosearch vacuum excavated MW112-A to a depth of six feet. At MW116, it encountered rock at a depth of approximately 3.5 feet below ground surface. Geosearch advanced 1 soil boring at MW112-A to a depth of 19 feet using the hollow stem auger drilling method, and 1 bedrock boring at MW116 to a depth of 16 feet using the air-rotary drilling technique. Geosearch completed both borings as 2-inch diameter monitoring wells.



## **5.4 Soil Sampling**

During vacuum excavation activities from January through March 2007, GEI collected soil samples from each boring location at depths of approximately 2 to 3 feet using a hand auger. The soil samples were screened for VOCs, using a photoionization detector (PID) and the jar headspace method, and were submitted to Accutest for chemical analysis of VOCs.

GEI collected continuous soil samples during hollow-stem auger and Geoprobe® drilling in January through March 2007. GEI screened the samples in the field for VOCs using the jar headspace method and submitted selected samples to Accutest for chemical analysis of VOCs.

Soil testing results are summarized in Table 12 along with soil data from previous investigations. A summary of the testing results is also shown in Figure 23. The laboratory data reports associated with the January through March 2007 soil testing are in Appendix K.

## **5.5 Soil Vapor Sampling**

During monitoring well installation from January through March 2007, GEI observed Geosearch install eleven groundwater monitoring wells that would also serve as soil vapor sampling points. Monitoring well construction was modified by increasing the length of the screen above the water table to allow for soil vapor infiltration. To prevent the infiltration of air into the well, Geosearch sealed the annular space around the well with a thicker layer of hydrated bentonite chips than is typically used in monitoring well construction. Geosearch also equipped each monitoring well with a soil vapor sampling port and valve. The top of each monitoring well was sealed with a removable pipe cap and gasket, and the cap was not removed for 24-hours prior to soil vapor sampling. Monitoring well construction reports are in 7.

Soil vapor testing results are summarized in Table 13 and shown on Figure 24. The laboratory data reports, associated with the January through March 2007 soil vapor testing, are in Appendix K.

### **5.5.1 January 2007**

On January 17 and 18, 2007, GEI collected soil vapor samples from six monitoring wells installed earlier in the same month (MW106, MW107, MW108, MW109, MW110, and MW112).

### **5.5.2 February 2007**

On February 19, 2007, GEI collected soil vapor samples from three monitoring wells installed earlier in the same month (MW113, MW114, and MW115).





### **5.5.3 March 2007**

On March 20, 2007, GEI collected soil vapor samples from three monitoring wells installed earlier in the same month (MW112A, MW115, and MW116). Validated laboratory results were not available by March 31, 2007 and will be presented in the next IRA Status Report.

### **5.5.4 Soil Vapor Sampling: Methods and Checklists**

Soil vapor samples were collected using 6-liter summa canisters and regulators provided by Accutest. Each canister was certified clean by Accutest, and copies of the certifications are in Appendix I.

The regulator was attached to the canister after they were brought to the sampling location, and the pressure gauge reading was recorded. Summa canisters were connected to the soil vapor sampling ports using pressure fittings and Teflon tubing. GEI personnel took photographs of the canisters and filled in a pre-sampling checklist (Appendix I). The laboratory-set flow regulator was subsequently turned on and the time recorded. The regulator was turned off after one hour, and the time and final pressure gauge reading were recorded.

## **5.6 Groundwater Level Measurements**

GEI measured groundwater levels site-wide in October 2006 and January 2007 prior to groundwater sampling, and at selected locations during the period January through March 2007. Groundwater level measurements from October 2006 through March 2007 are in Table 14. Groundwater contours are presented in Figures 25 through 30.

## **5.7 Quarterly Groundwater Sampling**

Groundwater testing results are summarized in Table 15 along with groundwater data from previous investigations. A summary of groundwater testing data is displayed on Figure 31. The laboratory data reports associated with the January through March 2007 groundwater testing are in Appendix L.

### **5.7.1 October 2006**

From October 4 through 5, 2006, GEI collected groundwater samples from 17 existing monitoring wells and 5 monitoring wells installed by GEI in May 2006. Groundwater samples were collected using low-flow sampling techniques. Monitoring well MW-2 was not located and is presumed destroyed. Monitoring wells SH-1, SH-3, and SH-5 were dry during the sampling event. Monitoring wells MW-1, MW-2, SH-2, and SH-4 did not have sufficient water to be able to collect groundwater samples using either low-flow methods or Teflon bailers. Groundwater samples were submitted to Accutest for chemical analysis of VOCs.



### **5.7.2 January 2007**

From January 16 through 18, 2007, GEI collected groundwater samples from 22 existing monitoring wells, including 5 monitoring wells installed by GEI in May 2006, and 6 monitoring wells installed by GEI in January 2007. Groundwater samples were collected using low-flow sampling techniques. Monitoring well MW-2 was not located and presumed destroyed. Monitoring wells SH-1, SH-2, SH-3, SH-4, SH-5, and MW112 were dry during the sampling event. Monitoring well MW103 was sampled on January 17, 2007, and re-sampled on January 18, 2007 for additional testing parameters. All groundwater samples were submitted to Accutest for laboratory analysis for VOCs, and selected samples were submitted for laboratory analysis for surfactants and the natural attenuation parameters listed in Table 16.

#### **5.7.2.1 Natural Attenuation Parameters**

Groundwater from the Site was tested for natural attenuation parameters to evaluate if biologic and/or abiotic degradation, or physical processes (e.g., diffusion, sorption, and dispersion) were affecting the fate and transport of VOCs at the Site. Natural attenuation parameter testing was conducted in January 2007 and included: alkalinity, arsenic, iron III, total organic carbon (TOC), nitrate, nitrite, sulfate, sulfide, chloride, methane, ethane, pH, oxidation/reduction potential (ORP), conductance, dissolved oxygen, and VOC concentrations. Natural attenuation parameter testing results from January 2007 are presented in Table 16.

#### **5.7.2.2 Surfactant Testing**

Surfactants are substances that, when dissolved in water, lower the surface tension of the water and increase the solubility of organic compounds. Surfactants (e.g., detergents) may affect the solubility, mobility and degradation of the chemicals of concern associated with the Site. Since ionic surfactants, such as linear alkyl benzene sulfonates are found in industrial detergents, and may have been stored and/or released on the Property, groundwater from selected monitoring wells was tested for the potential presence of surfactants.

Surfactants, measured as linear alkyl benzene sulfonates, were detected only in a groundwater sample from MW107 at a concentration of 150 micrograms per liter ( $\mu\text{g/L}$ ). A summary of the surfactant testing is on Table 16. Based on groundwater contours and the absence of significant chlorinated VOCs in groundwater samples from this well, the data indicates that mobilization of chlorinated solvents due to the presence of surfactants is not likely to be occurring in the shallow groundwater.

### **5.8 Additional Groundwater Sampling (February and March 2007)**

GEI collected additional groundwater samples from monitoring wells installed in February and March 2007. Groundwater samples were collected using the low-flow sampling techniques. Groundwater samples were submitted to Accutest for laboratory analysis for VOCs.





GEI collected groundwater samples from monitoring wells MW113 and MW114 on February 20, 2007.

GEI collected groundwater samples from monitoring wells MW112A, MW115, and MW116 on March 23, 2007. Validated testing results were not available by March 31, 2007 and will be presented in the next IRA Status Report.

## **5.9 Dell Street**

Chlorinated VOCs were not detected above the laboratory reporting limits in the groundwater samples collected in the well at the mid-point of Dell Street and at the intersection of Dell and Glen Streets. Chlorinated VOCs were detected only at very low concentrations in the soil vapor from these points. Based on these data, together with the results of indoor air sampling summarized above, it is GEI's opinion that chlorinated VOCs are not present in the subsurface in groundwater, and do not have the potential to migrate via soil vapor into buildings, on Dell Street.

## **5.10 Investigation-Derived Waste**

TMC Services, Inc. (TMC) of Bellingham, MA transported all investigation derived waste (IDW) generated between January 5, 2007 and March 23, 2007 to the General Chemical Corporation facility located at 133-138 Leland Street in Framingham, Massachusetts. IDW consisted of either soil from drilling activities, or groundwater from monitoring well development and sampling.

TMC transported water from the October 2006 quarterly groundwater sampling event to the Northland Environmental, Inc. facility located at 275 Ailene Avenue in Providence, Rhode Island.

Copies of hazardous waste manifests without facility sign-off are in Appendix M. GEI requested completed manifests from the disposal facility, and will provide these to DEP in a future submittal.



## **6. Planned Activities**

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### **6.1 Capuano Center**

#### **6.1.1 SSDS Operations Monitoring**

GEI will continue to monitor the operations of the SSDS. GEI will measure the following in April, May and June, 2007:

- VOC concentrations inside Classrooms 126, 138, 142, 146, and 141 using summa canisters for laboratory analysis.
- Sub-slab soil vapor VOC concentrations at each of six monitoring points using a ppbRAE.
- VOC concentrations in the combined influent to the blower in the temporary enclosure and from a sampling port located in the exhaust stack using a ppbRAE.

Following the June sampling event, sampling will be conducted quarterly for one year. Whether and to what extent additional monitoring may be required will be evaluated, and any further monitoring plans will be submitted to DEP for review and comment.

Mechanical inspections will continue on a weekly basis through June.

#### **6.1.2 Permanent System Upgrade**

GEI will evaluate permanent system upgrades to the SSDS during July 2007, when school is no longer in session. The emphasis of the system upgrade will be a permanent housing and location for the mechanical system.

### **6.2 Residences and Commercial Buildings**

GEI will continue to contact property owners to arrange for sub-slab soil vapor testing. Based on the results of the soil vapor testing results and the criteria described in IRA Plan Modification No. 1 (RTN 3-24116) dated April 12, 2007, GEI will either take no further action, conduct indoor air testing, or install a SSDS in the home or building. .

### **6.3 50 Tufts Street**

#### **6.3.1 Apply uniform floor coating**

A floor coating system designed for concrete floors will be applied to the entire floor slab to reduce the potential migration of VOCs through micro-cracks and pores in the concrete. The





coating system will consist of two coats of epoxy. The floor coating is designed to withstand typical wear and tear consistent with automotive storage and to have chemical resistance to typical automobile-related materials, such as gasoline, oil, and coolant.

### **6.3.2 *Environmental Monitoring Plan for Indoor Air***

Following the completion of the installation of the SSDS, GEI will monitor the effectiveness of the system in accordance with the Environmental Monitoring Plan included in IRA Modification No. 5 (RTN 3-23426), dated April 27, 2007.

## **6.4 Subsurface Investigation**

GEI will be submitting a Phase II Workplan to further delineate the nature and extent of the release. To the extent that some of the currently planned activities that may be included in the Workplan also may be considered IRA activities, they are summarized here.

### **6.4.1 *Groundwater Sampling Transect***

We anticipate installing a groundwater sampling “transect” north and east of the Property to further delineate the potential extent of VOCs in groundwater. Monitoring points will be installed using either Geoprobe “hydropunch” or conventional drilling techniques, depending on whether subsurface geologic conditions will permit use of Geoprobos. Groundwater samples will be submitted to Accutest for laboratory testing for VOCs.

Prior to performing the transect, GEI will retain a geophysical contractor to survey depth to bedrock, which was encountered at a depth of approximately 3 feet during drilling activities at the nearby Capuano Center. The results of the survey will be used to evaluate both whether Geoprobos may be used for this investigation and where they may be used.

### **6.4.2 *Monthly Groundwater Gauging***

GEI will measure the depth to water in the existing and recently installed wells at the Site, monthly from April to October 2007. We will also continue to monitor data loggers in three existing wells to continuously measure depth to groundwater.

### **6.4.3 *Quarterly Groundwater Sampling***

GEI will collect groundwater samples from selected wells at the Site on a quarterly basis. Groundwater samples will be collected using the low-flow method and submitted to Accutest for laboratory analysis for VOCs.



#### **6.4.4 Quarterly Soil Vapor Sampling**

GEI will collect quarterly soil vapor samples from monitoring wells MW106 through MW116 in April and October 2007. Soil vapor samples will be submitted to Accutest for laboratory analysis for VOCs.





## 7. Limitations

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These IRA Status Reports Nos. 1 and 3 were prepared for the use of UniFirst Corporation, exclusively. The conclusions presented in this report are based solely on the information reported in this document. Additional information regarding the Site and surrounding area not available to GEI may result in a modification of the findings herein. This report has been prepared in accordance with generally accepted geohydrological practices. No warranty, expressed or implied, is made.





Geotechnical  
Environmental and  
Water Resources  
Engineering







**Table 1**  
**Properties to be Evaluated for Vapor Intrusion**  
**50 Tufts Street**  
**Somerville, MA**

2 Alston Street	166-168 Glen Street	19-19A Morton Street
6 Alston Street	2 Hadley Court	21 Morton Street
12 Alston Street	9 Knowlton Street	9 Tufts Street
16-20 Alston Street	12-14 Knowlton Street	11-13 Tufts Street
30-40 Alston Street	13 Knowlton Street	17 Tufts Street
142 Cross Street	17 Knowlton Street	19 Tufts Street
74 Franklin Street	19 Knowlton Street	23 Tufts Street
76 Franklin Street	23 Knowlton Street	25 Tufts Street
80 Franklin Street	27 Knowlton Street	27 Tufts Street
82 Franklin Street	29 Knowlton Street	45-47 Tufts Street
86 Franklin Street	31-33 Knowlton Street	49 Tufts Street
91-93 Franklin Street	32 Knowlton Street	51-51a Tufts Street
95 Franklin Street	34 Knowlton Street	53 Tufts Street
95R Franklin Street	35-37 Knowlton Street	60 Tufts Street
97 Franklin Street	4 Morton Street	85 Washington Street
97R Franklin Street	7 Morton Street	91 Washington Street
99 Franklin Street	6-8 Morton Street	97 Washington Street
152-154 Glen Street	10 Morton Street	103 Washington Street
153-155 Glen Street	11 Morton Street	105-107 Washington Street
156 Glen Street	12 Morton Street	111 Washington Street
159 Glen Street	13 Morton Street	113 Washington Street
163 Glen Street	15 Morton Street	117 Washington Street
162-164 Glen Street	18 Morton Street	121 Washington Street



Table 2  
Summary of Testing Results - Indoor Air Samples  
Michael E. Capuano Center, 150 Glen Street  
Somerville, Massachusetts

Sample Location: Sample Name:  Sample Date: Collected By: Units:		Cafetorium		Room 101C				Room 108				Room 121		Room 122				Room 125			
		150 Glen-Caf		150 Glen Room 101A		150 Glen Room 101B		150-Glen-Room 108A		150-Glen-Room 108B		150-Glen-Room 121		150-Glen-Room 122		150-Glen-Room 122		150 Glen-Room 125A		150 Glen-Room 125B	
		1/6/2007 GEI		12/27/2006 GEI		12/28/2006 GEI		12/27/2006 GEI		12/28/2006 GEI		1/6/2007 GEI		1/6/2007 GEI		2/7/2007 GEI		12/27/2006 GEI		12/28/2006 GEI	
		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method																				
Volatile Organic Compounds (VOCs)	TO-15																				
Carbon tetrachloride		0.49 JS	0.078 JS	< 1.3	< 0.20	< 1.3	< 0.20	0.94 J	0.15 J	< 1.3	< 0.20	0.52 JS	0.082 JS	0.51 JS	0.081 JS	0.69 J	0.11 J	1.0 J	0.16 J	< 1.3	< 0.20
1,1-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
1,1-Dichloroethylene		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
cis, 1,2-Dichloroethene		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethylene (PCE)		0.88 JS	0.13 JS	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

- General Notes**
- Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - ug/m<sup>3</sup> = micrograms per cubic meter.
  - ppbV = parts per billion by volume.
  - "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

- Qualifying Notes**
- J The reported result is below the laboratory reporting limit and is estimated.
- S The result is estimated due to Internal Standard recovery outside of the control limits.





Table 2  
Summary of Testing Results - Indoor Air Samples  
Michael E. Capuano Center, 150 Glen Street  
Somerville, Massachusetts

Sample Location: Sample Name:  Sample Date: Collected By: Units:		Room 126								Room 134				Room 136		Room 137				Room 138					
		150 Glen-Room 126 (Accutest Can M086)		150 Glen-Room 100 (Accutest Can 115)		150 Glen-Room 126		150 Glen-Room 126		150 Glen-Room 134		150 Glen-Room 134		150 Glen-Room 136		150 Glen-Room 137A		150 Glen-Room 137B		RM138		150 Glen-Room 138		150 Glen-Room 138 (Accutest Can M151)	
		1/13/2007 GEI		1/13/2007 GEI		2/7/2007 GEI		3/8/2007 GEI		1/13/2007 GEI		2/7/2007 GEI		1/13/2007 GEI		1/6/2007 GEI		1/6/2007 GEI		1/2/2007 GEI		1/6/2007 GEI		1/13/2007 GEI	
		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method																								
Volatile Organic Compounds (VOCs)		TO-15																							
Carbon tetrachloride		0.69 J	0.11 J	0.63 J	0.10 J	0.94 J	0.15 J	<1.3	<0.20	0.75 J	0.12 J	0.94 J	0.15 J	0.69 J	0.11 J	0.52 JS	0.082 JS	< 1.3	< 0.20	< 1.3	< 0.20	0.49 JS	0.078 JS	0.82 J	0.13 J
1,1-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	0.45 J	0.11 J	0.77 JS	0.19 JS	0.57 J	0.14 J
1,1-Dichloroethylene		< 0.79	< 0.20	< 0. 79	< 0.20	< 0. 79	< 0.20	<0.79	<0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	2.1 S	0.54 S	< 0.79	< 0.20
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
cis, 1,2-Dichloroethene		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	0.83 S	0.21 S	< 0.79	< 0.20
Tetrachloroethylene (PCE)		0.88 J	0.13 J	0.75 J	0.11 J	< 1.4	< 0.20	< 1.4	<0.20	3.2	0.47	< 1.4	< 0.20	2.1	0.31	< 1.4	< 0.20	< 1.4	< 0.20	14	2	60 S	8.8 S	20	3
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20	0.54 J	0.10 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	2.3	0.42	7 S	1.3 S	3.1	0.57

- General Notes**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. ug/m<sup>3</sup> = micrograms per cubic meter.
  3. ppbV = parts per billion by volume.
  4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

- Qualifying Notes**
- J The reported result is below the laboratory reporting limit and is estimated.
- S The result is estimated due to Internal Standard recovery outside of the control limits.





Table 2  
Summary of Testing Results - Indoor Air Samples  
Michael E. Capuano Center, 150 Glen Street  
Somerville, Massachusetts

Sample Location: Sample Name:  Sample Date: Collected By: Units:		Room 138												Room 141				Room 142								
		150 Glen-Room 138 (Accutest Can M039)		150 Glen-Room 138 (Alpha Can M039)		150 Glen-Room 138 (Accutest Can M015)		150 Glen-Room 139 (Accutest Can M095)		150-Glen-Room 138 (Accutest Can M031)		150-Glen-Room 139 (Accutest Can M122)		150 Glen-Room 141		150-Glen-Room 141		RM142		150 Glen-Room 142		150 Glen-Room 142		150-Glen-Room 142		
		1/13/2007 GEI		1/13/2007 GEI		2/7/2007 GEI		2/7/2007 GEI		3/8/2007 GEI		3/8/2007 GEI		1/6/2007 GEI		3/8/2007 GEI		1/2/2007 GEI		1/6/2007 GEI		2/7/2007 GEI		3/8/2007 GEI		
		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>
Analyte	Method																									
Volatile Organic Compounds (VOCs)																										
Carbon tetrachloride	TO-15	0.82 J	0.13 J	< 0.126	< 0.020	0.75 J	0.12 J	0.52 J	0.082 J	<1.3	<0.20	<1.3	<0.20	0.45 JS	0.071 JS	<1.3	<0.20	< 1.3	< 0.20	0.52 JS	0.083 JS	0.82 J	0.13 J	<1.3	<0.20	
1,1-Dichloroethane		0.65 J	0.16 J	< 0.081	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	<0.81	<0.20	< 0.81	< 0.20	<0.81	<0.20	1.4	0.35	1.2 S	0.29 S	< 0.81	< 0.20	<0.81	< 0.20	
1,1-Dichloroethylene		< 0.79	< 0.20	< 0.079	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20	<0.79	<0.20	< 0.79	< 0.20	<0.79	<0.20	0.87	0.22	2.5 S	0.63 S	< 0.79	< 0.20	<0.79	<0.20	
1,2-Dichloroethane		< 0.81	< 0.20	< 0.0819	< 0.020	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	<0.81	<0.20	< 0.81	< 0.20	<0.81	<0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	
cis, 1,2-Dichloroethene		< 0.79	< 0.20	< 0.079	< 0.020	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20	<0.79	<0.20	< 0.79	< 0.20	<0.79	<0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20	
Tetrachloroethylene (PCE)		20	3	32.6	4.8	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	<0.20	< 1.4	<0.20	< 1.4	< 0.20	< 1.4	<0.20	28	4.1	45 S	6.6 S	< 1.4	< 0.20	< 1.4	<0.20	
1,1,1-Trichloroethane		< 1.1	< 0.20	< 0.109	< 0.020	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	< 0.20	0.33 JS	0.061 JS	< 1.1	< 0.20	< 1.1	<0.20	
Trichloroethylene (TCE)		3.3	0.61	4.26	0.794	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	<0.20	< 1.1	< 0.20	< 1.1	<0.20	3.7	0.69	5.4 S	1 S	< 1.1	< 0.20	< 1.1	<0.20	

- General Notes**
- 1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - 2. ug/m<sup>3</sup> = micrograms per cubic meter.
  - 3. ppbV = parts per billion by volume.
  - 4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

- Qualifying Notes**
- J The reported result is below the laboratory reporting limit and is estimated.
  - S The result is estimated due to Internal Standard recovery outside of the control limits.



Table 2  
Summary of Testing Results - Indoor Air Samples  
Michael E. Capuano Center, 150 Glen Street  
Somerville, Massachusetts

Sample Location:		Room 144				Room 145		Room 146													
Sample Name:		150 Glen-Room 144 (Accutest Can M042)		150 Glen-Room 144 (Alpha Can M042)		150 Glen-Room 145		150-Glen-Room 146A	150-Glen-Room 146B (Accutest Can M107)	150-Glen-Room 146C (Accutest Can M152)		RM146		150-Glen-Room 146		150-Glen-Room 146		150-Glen-Room 146		150-Glen-Room 146	
Sample Date:		1/13/2007		1/13/2007		1/6/2007		12/27/2006	12/28/2006	12/28/2006		1/2/2007		1/6/2007		2/7/2007		3/8/2007			
Collected By:		GEI		GEI		GEI		GEI	GEI	GEI				GEI		GEI		GEI			
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method																				
Volatile Organic Compounds (VOCs)		TO-15																			
Carbon tetrachloride		0.88 J	0.14 J	< 3.14	< 0.50	0.45 JS	0.071 JS	1.1 J	0.18 J	< 1.3	< 0.20	0.49 J	0.078 J	0.63 J	0.10 J	< 1.3	< 0.20	0.75 J	0.12 J	<1.3	<0.20
1,1-Dichloroethane		< 0.81	< 0.20	< 2.02	< 0.50	< 0.81	< 0.20	10	2.5	3.6	0.88	3.3	0.82	0.53 J	0.13 J	0.57 JS	0.14 JS	< 0.81	< 0.20	<0.81	<0.20
1,1-Dichloroethylene		< 0.79	< 0.20	< 1.98	< 0.50	< 0.79	< 0.20	7.9	2	4	1	3.9	0.99	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20
1,2-Dichloroethane		< 0.81	< 0.20	<2.02	< 0.50	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20
cis, 1,2-Dichloroethene		< 0.79	< 0.20	< 1.98	< 0.50	< 0.79	< 0.20	3.3	< 0.83	1.3	0.33	1.2	0.31	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	<0.79	<0.20
Tetrachloroethylene (PCE)		4.1	0.61	4.36	0.643	< 1.4	< 0.20	186	27.5	83.4	12.3	85.4	12.6	11	1.6	26 S	3.8 S	< 1.4	< 0.20	< 1.4	<0.20
1,1,1-Trichloroethane		< 1.1	< 0.20	< 2.72	< 0.50	< 1.1	< 0.20	2.1	0.38	0.82 J	0.15 J	0.71 J	0.13 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20
Trichloroethylene (TCE)		1.3	0.24	< 2.68	< 0.50	< 1.1	< 0.20	37	6.8	10	1.9	11	2.1	1.7	0.32	3 S	0.56 S	< 1.1	< 0.20	< 1.1	<0.20

- General Notes**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. ug/m<sup>3</sup> = micrograms per cubic meter.
  3. ppbV = parts per billion by volume.
  4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

- Qualifying Notes**
- J The reported result is below the laboratory reporting limit and is estimated.
- S The result is estimated due to Internal Standard recovery outside of the control limits.





Table 3  
Summary of Testing Results - Outdoor Air Samples  
Michael E. Capuano Center, 150 Glen Street  
Somerville, Massachusetts

Sample Location: Sample Name: Sample Date: Collected By: Units:		Outside of School by Room 126 Window						Outside of School by Day Care Window						Blower Effluent		Downwind on Roof					
		150 Glen-0-1A 12/27/2006 GEI		150 Glen-O-1B 12/28/2007 GEI		150 Glen-0-1A 1//6/07 GEI		150 Glen-0-2A 12/27/2006 GEI		150 Glen-O-2B 12/28/2007 GEI		150 Glen-0-2A 1//6/07 GEI		150Glen-Effluent 2/8/07 GEI		150Glen-Roof 2/8/07 GEI		150Glen-Roof B 2/8/07 GEI		150Glen-Roof 3/8/07 GEI	
		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method																				
Volatile Organic Compounds (VOCs)	TO-15																				
Acetone		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	45.4	19.1 B	NT	NT	NT	NT	NT	NT
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	0.52 JS	0.083 JS	1.1 J	0.17 J	< 1.3	< 0.20	0.52 JS	0.082 JS	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
1,1-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	24	6	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
1,1-Dichloroethylene		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	10	2.6	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
cis, 1,2-Dichloroethene		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	15	3.8	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Methyl ethyl ketone		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	380 S	129 S	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	577 S	85.1 S	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
Tetrahydrofuran		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	571 S	194 S	NT	NT	NT	NT	NT	NT
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	3.9	0.72	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	98.3	18.3	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

- General Notes**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. ug/m<sup>3</sup> = micrograms per cubic meter.
  3. ppbV = parts per billion by volume.
  4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
  5. NT= The sample was not tested for this analyte.

- Qualifying Notes**
- S The result is estimated due to Internal Standard recovery outside of the control limits.
- J The reported result is below the laboratory reporting limit and is estimated.
- B Compound present in the associated method blank.



Table 4

## Summary of Testing Results - Sub-Slab Soil Vapor Samples

Michael E. Capuano Center

Somerville, MA

Sample Location: Sample Name: Sample Date: Collected By:		Room 137A			Room 142A			Room 146A					
		045162-150Glen-Room137A			045162-150Glen-Room142A			045162-150Glen-Room146A					
		1/31/07 GEI		2/8/07 GEI	1/31/07 GEI		2/8/07 GEI	1/31/07 GEI		2/8/07 GEI			
		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV		
Analyte	Method	Units:											
Volatile Organic Compounds (VOCs)  Acetone Carbon tetrachloride 1,1-Dichloroethane 1,1-Dichloroethylene cis-1,2-Dichloroethylene Methyl ethyl ketone 1,1,1-Trichloroethane Tetrachloroethylene Tetrahydrofuran Trichloroethylene	TO-15	9.0 BG	3.8 BG	8.3 B	3.5 B	23 BG	9.6 BG	17 BS	7.1 BS	3090 BG	1300 BG	147 BS	62 BS
		0.75 J	0.12 J	<1.3	<0.20	0.69 J	0.11 J	<6.3	<1.0	<1.3	<0.20	<16	<2.5
		<0.81	<0.20	<0.81	<0.20	27	6.7	2.5 JS	0.62 JS	8.1	2	<10	<2.5
		<0.79	<0.20	<0.79	<0.20	1.1	0.29	<4.0	<1.0	<0.79	<0.20	<9.9	<2.5
		<0.79	<0.20	<0.79	<0.20	1.2	0.31	<4.0	<1.0	<0.79	<0.20	<9.9	<2.5
		96.1	32.6	73.4	24.9	202	68.5	24 S	8.1 S	41600	14100	1490	504
		0.93 J	0.17 J	<1.1	<0.20	15	2.8	<5.5	<1.0	3.4	0.62	<14	<2.5
		1.4 J	0.20 J	5.8	0.85	383	56.5	170 S	25 S	138	20.3	4.1 JS	0.61 JS
		1180 G	402 G	28	9.6	4510 G	1530 G	182 S	61.9 S	26600 G	9040 G	748	254
		<1.1	<0.20	<1.1	<0.20	29	5.4	20 S	3.7 S	7.5	1.4	<13	<2.5

**General Notes:**

- General Notes:**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. ug/m<sup>3</sup> = micrograms per cubic meter.
  3. ppbV = parts per billion by volume.
  4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
  5. GEL = GEL Consultants, Inc.

### Qualifying Notes:

- B** Compound present in the associated method blank.
- G** The result is estimated due to duplicate precision outside control limits.
- J** The reported result is below the laboratory reporting limit and is estimated.
- S** The result is estimated due to Internal Standard recovery outside of the control limits.





Table 5

Summary of Testing Results - Stockpile Soil Samples

Michael E. Capuano Center  
Somerville, Massachusetts

Analyte	Sample ID: 045162-GRAB1 1/28/07 045162-COMP1 1/28/07			
	Method	Units	Date Sampled:	
			MCP Reportable Concentration	
			RCS-1 (mg/kg)	
<b>Volatile Organic Compounds (VOCs)</b>				
Total VOCs	SW846 8260B	mg/kg	NS	NT
<b>Semivolatile Organic Compounds (SVOCs)</b>				
Total SVOCs	SW846 8270C	mg/kg	NS	ND
<b>Volatile Petroleum Hydrocarbons (VPH)</b>	MADEP VPH REV 1.1	mg/kg	NS	NT
<b>Extractable Petroleum Hydrocarbons (EPH)</b>	MADEP EPH REV 1.1	mg/kg		
C19-C36 Aliphatics			2500	24.7
C11-C22 Aromatics			200	74.5
Total EPH			NS	99.2
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>				
Anthracene	MADEP EPH REV 1.1	mg/kg	1000	0.725
Benzo(a)anthracene			7	1.88
Benzo(a)pyrene			2	1.84
Benzo(b)fluoranthene			7	1.71
Benzo(g,h,i)perylene			1000	1.55
Benzo(k)fluoranthene			70	1.48
Chrysene			7	2.23
Fluoranthene			1000	3.81
Indeno(1,2,3-cd)pyrene			7	1.17
Phenanthrene			100	2.54
Pyrene			1000	3.69
Total PAHs			NS	22.6
<b>Polychlorinated Biphenyls (PCBs)</b>				
Total PCBs	SW846 8082	mg/kg	2	NT
<b>Metals, Total</b>				
Arsenic	SW846 6010B	mg/kg	20	6.0
Chromium			1000	18.1
Lead			300	206
Mercury	SW846 7471A	mg/kg	20	0.88
<b>Physical/Inorganic</b>				
Cyanide Reactivity	SW846 CHAP7	mg/kg	NS	< 1.8
Ignitibility	SW846 1020	deg F	NS	> 230
pH	SW846 9045	pH units	NS	9.3
Solids, Percent	EPA 160.3 M	%	NS	84.8
Sulfide Reactivity	EPA 120.1 M	mg/kg	NS	< 59

General Notes

1. The laboratory analyses were performed by Accutest Laboratories.
2. In general, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
3. "<" = Analyte not detected at a concentration above the specified laboratory reporting limit.
4. Reportable Concentrations (e.g. RCS-1), where identified, are cited from the MCP.
5. MCP = 310 CMR 40.0000 Massachusetts Contingency Plan dated April 3, 2006.
6. mg/kg = milligrams per kilogram.
7. ND = Not detected above laboratory reporting limit. See the laboratory data reports for the detection limits.
8. NS = No known standard for this analyte.
9. umhos/cm = micromhos per centimeter.





Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

		Sample Location: 9 Tufts St., basement									
		Sample Name: IA-6		045160-9Tufts-BR		045160-9Tufts-BR		045162-9Tufts-BR		045162-9Tufts-BR	
		Sample Date: 2/23/05		3/23/06		7/24/06		10/2/06		12/15/06	
		Collected By: Shaw		GEI		GEI		GEI		GEI	
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method										
Volatile Organic Compounds (VOCs)	TO-15										
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.75 J	0.12 J
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		0.54 J	0.11 J	1.3	0.26	1.2	0.24	NT	NT	NT	NT
Chloromethane		0.91	0.44	1.1 L	0.53 L	0.95	0.46	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		0.56 J	0.16 J	< 1.9 M	< 0.55 M	11	3.1	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.3 J	0.19 J	2.4	0.35	3.1	0.45	16	2.4	2.2 C+	0.32 C+
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

- General Notes:**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. ug/m<sup>3</sup> = micrograms per cubic meter.
  3. ppbV = parts per billion by volume.
  4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
  5. NT = Not tested
  6. GEI = GEI Consultants, Inc.
  7. Shaw = Shaw Environmental, Inc.
  8. apt. = apartment

- Qualifying Notes:**
- C+ The result has a high bias due to surrogate recovery above upper control limits.
- J The reported result is below the laboratory reporting limit and is estimated.
- L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
- M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.
- S The result is estimated due to Internal Standard recovery outside of the control limits.



Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

		Sample Location:		9 Tufts St., 1st floor		9 Tufts St., 1st floor, left apt.		9 Tufts St., 1st floor, right apt.		9 Tufts St., 1st floor, left apt.		9 Tufts St., 1st floor, right apt.		9 Tufts St., 1st floor, left apt.		9 Tufts St., 1st floor, right apt.		9 Tufts St., 1st floor, left apt.		9 Tufts St., 1st floor, right apt.	
		Sample Name:		IA-5		045160-9Tufts-1L		045160-9Tufts-1R		045160-9Tufts-1L		045160-9Tufts-1R		045162-9Tufts-1L		045162-9Tufts-1R		045162-9Tufts-1L		045162-9Tufts-1R	
		Sample Date:		2/23/05		3/23/06		3/23/06		7/24/06		7/24/06		10/2/06		10/2/06		12/15/06		12/15/06	
		Collected By:		Shaw		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
		Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method																				
Volatile Organic Compounds (VOCs)		TO-15																			
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.62 J	0.099 J	0.59 J	0.093 J
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		1.2	0.25	0.78 J	0.16 J	< 0.98	< 0.20	0.88 J	0.18 J	2.3	0.47	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chloromethane		1.0	0.49	1.4 L	0.69 L	1.4 L	0.69 L	1	0.49	1.1	0.55	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		0.59 J	0.17 J	< 1.8 M	< 0.52 M	< 1.3 M	< 0.36 M	< 4.2 M	< 1.2 M	< 6.6 M	< 1.9 M	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.8	0.27	< 1.4	< 0.20	0.95 J	0.14 J	1.2 J	0.18 J	2	0.29	3.5	0.52	6.2	0.91	1.9	0.28	0.64 J	0.095 J		
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

- General Notes:**
- 1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - 2. ug/m<sup>3</sup> = micrograms per cubic meter.
  - 3. ppbV = parts per billion by volume.
  - 4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
  - 5. NT = Not tested
  - 6. GEI = GEI Consultants, Inc.
  - 7. Shaw = Shaw Environmental, Inc.
  - 8. apt. = apartment

- Qualifying Notes:**
- C+ The result has a high bias due to surrogate recovery above upper control limits.
  - J The reported result is below the laboratory reporting limit and is estimated.
  - L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
  - M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.
  - S The result is estimated due to Internal Standard recovery outside of the control limits.





Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

Sample Location:		11 Tufts St., basement											
Sample Name:		IA-2		IA-2D (duplicate)		045160- 11/13Tufts-B		045160- 11/13Tufts-B		045162- 11/13Tufts-B		045162- 11/13Tufts-B	
Sample Date:		2/23/05		2/23/05		3/24/06		6/29/06		9/28/06		12/15/06	
Collected By:		Shaw		Shaw		GEI		GEI		GEI		GEI	
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method												
Volatile Organic Compounds (VOCs)	TO-15												
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	0.69 J	0.11 J
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		< 0.98	< 0.20	< 0.98	< 0.20	< 0.98	< 0.20	< 0.98	< 0.20	NT	NT	NT	NT
Chloromethane		0.81	0.39	0.74	0.36	1.4 L	0.68 L	1.7	0.80	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		1.0	0.29	0.90	0.26	< 4.5 M	< 1.3 M	< 5.2 M	< 1.5 M	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.8	0.26	1.9	0.28	< 1.4	< 0.20	2.4	0.36	0.88 J	0.13 J	2.2	0.33
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

- General Notes:**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. ug/m<sup>3</sup> = micrograms per cubic meter.
  3. ppbV = parts per billion by volume.
  4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
  5. NT = Not tested
  6. GEI = GEI Consultants, Inc.
  7. Shaw = Shaw Environmental, Inc.
  8. apt. = apartment

- Qualifying Notes:**
- C+ The result has a high bias due to surrogate recovery above upper control limits.
  - J The reported result is below the laboratory reporting limit and is estimated.
  - L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
  - M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.
  - S The result is estimated due to Internal Standard recovery outside of the control limits.



Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

Sample Location:  Sample Name:  Sample Date: Collected By: Units:		11 Tufts St., 1st floor									
		IA-1		045160-11/13Tufts-1		045160-11/13Tufts-1		045162-11/13Tufts-1		045162-11/13Tufts-1	
		2/23/05 Shaw		3/24/06 GEI		6/29/06 GEI		9/28/06 GEI		12/15/06 GEI	
		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method										
Volatile Organic Compounds (VOCs)		TO-15									
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	0.62 J	0.099 J
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		2.8	0.57	< 0.98	< 0.20	1.5	0.30	NT	NT	NT	NT
Chloromethane		0.99	0.48	1.4 L	0.7 L	2.7	1.3	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	0.85	0.21	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		0.80	0.23	< 1.2 M	< 0.34 M	< 2.7 M	< 0.77 M	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.0 J	0.15 J	< 1.4	< 0.20	1.8	0.27	1.5	0.22	< 1.4	< 0.20
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	0.71 J	0.13 J	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

**General Notes:**

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. ug/m<sup>3</sup> = micrograms per cubic meter.
3. ppbV = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT = Not tested
6. GEI = GEI Consultants, Inc.
7. Shaw = Shaw Environmental, Inc.
8. apt. = apartment

**Qualifying Notes:**

- C+ The result has a high bias due to surrogate recovery above upper control limits.
- J The reported result is below the laboratory reporting limit and is estimated.
- L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
- M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.
- S The result is estimated due to Internal Standard recovery outside of the control limits.





Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

Sample Location:		17 Tufts St., basement													
Sample Name:		IA-11		045160-17Tufts-B		045160-17Tufts-C (duplicate)		045162-17Tufts-B		045162-17Tufts-C (duplicate)		045162-17Tufts-B		045162-17Tufts-C (duplicate)	
Sample Date:		3/24/05		3/24/06		3/24/06		10/2/06		10/2/06		12/18/06		12/18/06	
Collected By:		Shaw		GEI		GEI		GEI		GEI		GEI		GEI	
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method														
Volatile Organic Compounds (VOCs)		TO-15													
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.52 J	0.083 J	< 1.3	< 0.20
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		1.1	0.23	< 0.98	< 0.20	< 0.98	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
Chloromethane		0.97	0.47	1.2 L	0.58 L	1.4 L	0.69 L	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		1.5	0.43	59.1 L	17 L	57.3 L	16.5 L	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		8.8	1.3	1.3 J	0.19 J	1.4	0.21	6.1	0.90	6.0	0.89	2	0.3	< 1.4	< 0.20
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		0.91 J	0.17 J	< 1.1	< 0.20	0.70 J	0.13 J	7.0	1.3	7.0	1.3	0.7 J	0.13 J	< 1.1	< 0.20

- General Notes:**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. ug/m<sup>3</sup> = micrograms per cubic meter.
  3. ppbV = parts per billion by volume.
  4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
  5. NT = Not tested
  6. GEI = GEI Consultants, Inc.
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  8. apt. = apartment

- Qualifying Notes:**
- C+ The result has a high bias due to surrogate recovery above upper control limits.
- J The reported result is below the laboratory reporting limit and is estimated.
- L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
- M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.
- S The result is estimated due to Internal Standard recovery outside of the control limits.





Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

Sample Location:		17 Tufts St., 1st floor							
Sample Name:		IA-12		045160-17Tufts-1		045162-17Tufts-1		045162-17Tufts-1	
Sample Date:		3/24/05		3/24/06		10/2/06		12/18/06	
Collected By:		Shaw		GEI		GEI		GEI	
Units:									
Analyte	Method	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Volatile Organic Compounds (VOCs)									
	TO-15								
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.57 J	0.09 J
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		1.9	0.39	< 0.98	< 0.20	NT	NT	NT	NT
Chloromethane		1.1	0.52	1.7 L	0.8 L	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		1.0	0.3	< 4.2 M	< 1.2 M	NT	NT	NT	NT
Tetrachloroethylene (PCE)		4.7	0.69	2.9	0.43	0.88 J	0.13 J	1.5	0.22
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. ug/m<sup>3</sup> = micrograms per cubic meter.
3. ppbV = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT = Not tested
6. GEI = GEI Consultants, Inc.
7. Shaw = Shaw Environmental, Inc.
8. apt. = apartment

Qualifying Notes:

- C+ The result has a high bias due to surrogate recovery above upper control limits.
- J The reported result is below the laboratory reporting limit and is estimated.
- L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
- M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.
- S The result is estimated due to Internal Standard recovery outside of the control limits.



Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

Sample Location:		19 Tufts St., basement																	
Sample Name:		IA-13		045160-19Tufts-B		045160-19Tufts-C (duplicate)		045160-19Tufts-B		045160-19Tufts-C (duplicate)		045162-19Tufts-B		045162-19Tufts-C (duplicate)		045162-19Tufts-B		045162-19Tufts-C (duplicate)	
Sample Date:		3/24/05		3/23/06		3/23/06		6/29/06		6/29/06		10/10/06		10/10/06		12/15/06		12/15/06	
Collected By:		Shaw		GEI		GEI		GEI		GEI		GEI		GEI		GEI		GEI	
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method																		
Volatile Organic Compounds (VOCs)		TO-15																	
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	0.59 J	0.093 J	< 1.3	< 0.20
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		< 0.98	< 0.20	< 0.98	< 0.20	< 0.98	< 0.20	0.83 J	0.17 J	0.88 J	0.18 J	NT	NT	NT	NT	NT	NT	NT	NT
Chloromethane		0.85	0.41	1.8 L	0.88 L	1.8 L	0.85 L	3.1	1.5	< 0.41	< 0.20	NT	NT	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		0.35 J	0.1 J	< 3.2 M	< 0.92 M	< 4.2 M	< 1.2 M	< 14 M	< 4 M	< 13 M	< 3.6 M	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		3.2	0.47	7.5	1.1	6.6	0.98	4.1	0.60	3.8	0.56	15	2.2	6.8	1.0	2.5	0.37	1.4	0.2
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	2.1	0.39	1.6	0.30	6.4	1.2	6.4	1.2	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. ug/m<sup>3</sup> = micrograms per cubic meter.
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Qualifying Notes:

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- J The reported result is below the laboratory reporting limit and is estimated.
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- M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.
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Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

Sample Location:		19 Tufts St., 1st floor											
Sample Name:		IA-14		045160-19Tufts-1		045160-19Tufts-1		045160-19Tufts-1		045162-19Tufts-1		045162-19Tufts-1	
Sample Date:		3/24/05		3/23/06		6/29/06		6/29/06		10/10/06		12/15/06	
Collected By:		Shaw		GEI		GEI		GEI		GEI		GEI	
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method												
Volatile Organic Compounds (VOCs)	TO-15												
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	0.63 J	0.10 J	< 1.3	< 0.20	0.63 J	0.10 J
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		0.78 J	0.16 J	< 0.98	< 0.20	5.4	1.1	NT	NT	NT	NT	NT	NT
Chloromethane		1.1	0.52	21.7 L	10.5 L	2.3	1.1	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		0.34 J	0.099 J	< 4.2 M	< 1.2 M	< 14 M	< 4.1 M	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		0.95 J	0.14 J	1.2 J	0.18 J	2.4	0.35	0.6 J	0.089 J	< 1.4	< 0.20	0.60 J	0.089 J
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	1.7	0.31	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

General Notes:

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. ug/m<sup>3</sup> = micrograms per cubic meter.
3. ppbV = parts per billion by volume.
4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
5. NT = Not tested
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Qualifying Notes:

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- J The reported result is below the laboratory reporting limit and is estimated.
- L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
- M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.
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Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

Sample Location:		23 Tufts St., basement											
Sample Name:		IA-8		045160-23Tufts-B		045160-23Tufts-B		045160-23Tufts-B		045162-23Tufts-B		045162-23Tufts-B	
Sample Date:		2/23/05		3/24/06		6/28/06		8/3/06		10/2/06		12/18/06	
Collected By:		Shaw		GEI		GEI		GEI		GEI		GEI	
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method												
Volatile Organic Compounds (VOCs)		TO-15											
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	< 0.20	0.58 J	0.092 J
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		0.88 J	0.18 J	< 0.98	< 0.20	3.7	0.76	NT	NT	NT	NT	NT	NT
Chloromethane		1.1	0.54	1.6 L	0.79 L	1.9	0.91	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		0.49 J	0.14 J	< 2.0 M	< 0.57 M	< 2.4 M	< 0.7 M	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		2.3	0.34	2.8	0.42	125	18.5	10	1.5	6.8	1.0	46	6.8
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	1.5	0.28	0.60 J	0.11 J	< 1.1	< 0.20	0.71 J	0.13 J
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	1.0 J	0.19 J	< 1.1	< 0.20	< 1.1	< 0.20	0.5 J	0.093 J

- General Notes:**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. ug/m<sup>3</sup> = micrograms per cubic meter.
  3. ppbV = parts per billion by volume.
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  - M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.
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Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

		Sample Location: 23 Tufts St., 1st floor											
		Sample Name:											
		IA-7		045160-23Tufts-1		045160-23Tufts-1		045160-23Tufts-1		045162-23Tufts-1		045162-23Tufts-1	
		2/23/05		3/24/06		6/28/06		8/3/06		10/2/06		12/18/06	
		Shaw		GEI		GEI		GEI		GEI		GEI	
		Units:											
Analyte	Method	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Volatile Organic Compounds (VOCs)		TO-15											
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	0.94 J	0.15 J	0.69 J	0.11 J	< 1.3	< 0.20	0.69 J	0.11 J
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		0.63 J	0.13 J	< 0.98	< 0.20	13	2.7	NT	NT	NT	NT	NT	NT
Chloromethane		0.97	0.47	1.7 L	0.82 L	1.6	0.78	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		0.52 J	0.15 J	< 2.7 M	< 0.77 M	396 L	114 L	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.6	0.23	< 1.4	< 0.20	94.9	14.0	9.5	1.4	4.1	0.60	54	8
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	1.0 J	0.19 J	< 1.1	< 0.20	< 1.1	< 0.20	0.51 J	0.093 J
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	0.64 J	0.12 J	< 1.1	< 0.20	< 1.1	< 0.20	0.54 J	0.1 J

**General Notes:**

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2. ug/m<sup>3</sup> = micrograms per cubic meter.
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Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

Sample Location:		25 Tufts St., Basement									
Sample Name:		IA-4		045160-25Tufts-B		045160-25Tufts-B		045162-25Tufts-B		045162-25Tufts-B	
Sample Date:		2/23/05		3/23/06		8/1/06		10/2/06		12/15/06	
Collected By:		Shaw		GEI		GEI		GEI		GEI	
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method										
Volatile Organic Compounds (VOCs)		TO-15									
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.56 J	0.089 J
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		< 0.98	< 0.20	< 0.98	< 0.20	NT	NT	NT	NT	NT	NT
Chloromethane		0.74	0.36	1.1 L	0.52 L	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	<0.81	<0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		0.49 J	0.14 J	< 1.6 M	< 0.47 M	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		1.6	0.23	3.2	0.47	3.9	0.57	4.2	0.62	6.6	0.97
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	<1.1	<0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	<1.1	<0.20	< 1.1	< 0.20	< 1.1	< 0.20

**General Notes:**

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. ug/m<sup>3</sup> = micrograms per cubic meter.
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Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

Sample Location:		25 Tufts St., 1st floor									
		IA-3		045160-25Tufts-1		045160-25Tufts-1		045162-25Tufts-1		045162-25Tufts-1	
		2/23/05		3/23/06		8/1/06		10/2/06		12/15/06	
		Shaw		GEI		GEI		GEI		GEI	
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method										
Volatile Organic Compounds (VOCs)	TO-15										
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.63 J	0.10 J
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		2.0	0.4	< 0.98	< 0.20	NT	NT	NT	NT	NT	NT
Chloromethane		0.95	0.46	1.1 L	0.54 L	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		0.35 J	0.1 J	< 1.9 M	< 0.54 M	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		< 1.4	< 0.20	1.7	0.25	2	0.29	< 1.4	< 0.20	1.7	0.25
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

**General Notes:**

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. ug/m<sup>3</sup> = micrograms per cubic meter.
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Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

Sample Location:		27 Tufts St., basement											
Sample Name:		IA-10		045160-27Tufts-B		045160-27Tufts-B		045160-27Tufts-B		045162-27Tufts-B		045162-27Tufts-B	
Sample Date:		2/23/05		3/23/06		6/28/06		8/3/06		9/28/06		12/18/06	
Collected By:		Shaw		GEI		GEI		GEI		GEI		GEI	
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method												
Volatile Organic Compounds (VOCs)	TO-15												
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	< 1.3	<0.20	< 1.3	<0.20	0.75 J/S	0.12 J/S
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	1.8	0.7
Chloroform		< 0.98	< 0.20	< 0.98	< 0.20	< 0.98	< 0.20	NT	NT	NT	NT	NT	NT
Chloromethane		0.6	0.29	2.9 L	1.4 L	1.3	0.65	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	<0.20	< 0.81	<0.20	< 0.81	< 0.20
Methylene chloride		0.49 J	0.14 J	< 4.2 M	< 1.2 M	< 2.1 M	< 0.6 M	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	117	17.3	1.6	0.23	38	5.6	37 S	5.5 S
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	1.0 J	0.19 J	< 1.1	< 0.20	0.55 J	0.10 J	0.38 J/S	0.069 J/S
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	0.45 J/S	0.083 J/S

- General Notes:**
- 1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - 2. ug/m<sup>3</sup> = micrograms per cubic meter.
  - 3. ppbV = parts per billion by volume.
  - 4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
  - 5. NT = Not tested
  - 6. GEI = GEI Consultants, Inc.
  - 7. Shaw = Shaw Environmental, Inc.
  - 8. apt. = apartment

- Qualifying Notes:**
- C+ The result has a high bias due to surrogate recovery above upper control limits.
  - J The reported result is below the laboratory reporting limit and is estimated.
  - L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
  - M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.
  - S The result is estimated due to Internal Standard recovery outside of the control limits.



Table 6  
Summary of Testing Results - Indoor Air Samples (2005-2006)  
Tufts Street  
Somerville, MA

Sample Location:		27 Tufts St., 1st floor											
Sample Name:		IA-9		045160-27Tufts-1		045160-27Tufts-1		045160-27Tufts-1		045162-27Tufts-1		045162-27Tufts-1	
Sample Date:		2/23/05		3/23/06		6/28/06		8/3/06		9/28/06		12/18/06	
Collected By:		Shaw		GEI		GEI		GEI		GEI		GEI	
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method												
Volatile Organic Compounds (VOCs)		TO-15											
Carbon tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.2	< 1.3	< 0.20	0.6 J/C+	0.096 J/C+
Chloroethane		< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20
Chloroform		< 0.98	< 0.20	< 0.98	< 0.20	< 0.98	< 0.20	NT	NT	NT	NT	NT	NT
Chloromethane		1.2	0.59	110 L	53.5 L	1.6	0.79	NT	NT	NT	NT	NT	NT
1,2-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
Methylene chloride		0.52 J	0.15 J	< 2.0 M	< 0.59 M	< 2.2 M	< 0.63 M	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	3.8	0.56	0.81 J	0.12 J	12	1.8	4.9 C+	0.72 C+
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

- General Notes:**
- 1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - 2. ug/m<sup>3</sup> = micrograms per cubic meter.
  - 3. ppbV = parts per billion by volume.
  - 4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
  - 5. NT = Not tested
  - 6. GEI = GEI Consultants, Inc.
  - 7. Shaw = Shaw Environmental, Inc.
  - 8. apt. = apartment

- Qualifying Notes:**
- C+ The result has a high bias due to surrogate recovery above upper control limits.
  - J The reported result is below the laboratory reporting limit and is estimated.
  - L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
  - M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.
  - S The result is estimated due to Internal Standard recovery outside of the control limits.





Table 7  
Summary of PCE Concentrations in Indoor Air (Tufts Street Residences)  
Tufts Street  
Somerville, Massachusetts

Address/ Location	Basement										1st Floor			
	2005	1st Quarter March 2006	2nd Quarter		3rd Quarter Sept.-Oct. 2006	4th Quarter 12/15/06	2005	1st Quarter March 2006	2nd Quarter		3rd Quarter Sept.-Oct. 2006	4th Quarter 12/15/06		
			June-August 2006	July-August 2006 Re-Test					June-August 2006	July-August 2006 Re-Test				
9 Tufts Street	1.3 J	2.4	3.1	NS	16	2.2	1.8	< 1.4 / 0.95 J	1.2J / 2	NS	3.5 / 6.2	1.9 / 0.64 J		
11-13 Tufts Street	1.8 / 1.9	<1.4	2.4	NS	0.88J	2.2	1.0 J	< 1.4	1.8	NS	1.5	<1.4		
17 Tufts Street	8.8	1.3 J / 1.4	NS	NS	6.1 / 6.0	2.0/<1.4	4.7	2.9	NS	NS	0.88J	1.5		
19 Tufts Street	3.2	7.5 / 6.6	4.1 / 3.8	NS	15 / 6.8	2.5/0.2M*	0.95 J	1.2 J	2.4	NS	< 1.4	0.60 J*		
23 Tufts Street	2.3	2.8	125	10	6.8	46	1.6	< 1.4	94.9	9.5	4.1	54		
25 Tufts Street	1.6	3.2	3.9	NS	4.2	6.6**	< 1.4	1.7	2	NS	< 1.4	1.7**		
27 Tufts Street	< 1.4	< 1.4	117	1.6	38	37	< 1.4	< 1.4	3.8	0.81J	12	4.9		

General Notes

1. NS = Not sampled.
2. "J" = Result / Field Duplicate Result.

Qualifying Notes

- J The reported result is below the laboratory reporting limit and is estimated.  
 \* This residence does not have an air purifier.  
 \*\* Air purifier in this residence was unplugged.  
 M Regulator malfunction caused incomplete sampling.





Table 8  
Summary of Testing Results - Outdoor Air Samples  
(Tufts Street Residences)  
Tufts Street  
Somerville, MA

Sample Location:  Sample Name: Sample Date: Collected By: Units:		Outdoor, northeast corner of property															
		045160-Tufts-O-1A		045160-Tufts-O-1B		045160-Tufts-O-1B		045160-Tufts-O-2B		045162-Tufts-O-2A		045162-Tufts-O-2B		045160-Tufts-O-1A		045160-Tufts-O-1B	
		3/23/06		3/24/06		6/28/06		6/29/06		9/28/06		10/2/06		12/15/06		12/18/06	
		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.	
		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method																
Volatile Organic Compounds (VOCs)	TO-15																
Carbon Tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.82	0.13
Chloromethane		1.1 L	0.53 L	1.1 L	0.55 L	1.4	0.70	1.4	0.66	NT	NT	NT	NT	NT	NT	NT	NT
Methylene chloride		< 1.2 M	< 0.35 M	< 0.97 M	< 0.28 M	< 3.0 M	< 0.86 M	< 5.6 M	< 1.6 M	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	8.1	1.2	5.4	0.80	< 1.4	< 0.20	1.6	0.24	0.88 J	0.13 J	2.7	0.4
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	0.65 J	0.12 J	1.1	0.21	< 1.1	< 0.20	0.76 J	0.14 J	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	0.91 J	0.17 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

- General Notes:**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. ug/m<sup>3</sup> = micrograms per cubic meter.
  3. ppbV = parts per billion by volume.
  4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
  5. NT = Not Tested

- Qualifying Notes:**
- J The reported result is below the laboratory reporting limit and is estimated.
  - L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
  - M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.



Table 8  
Summary of Testing Results - Outdoor Air Samples  
(Tufts Street Residences)  
Tufts Street  
Somerville, MA

Sample Location: Sample Name: Sample Date: Collected By: Units:		Outdoor, in tree in front of 17 Tufts Street															
		045160-Tufts-O-2A		045160-Tufts-O-2B		045160-Tufts-O-1A		045160-Tufts-O-2A		045162-Tufts-O-1A		045162-Tufts-O-1B		045160-Tufts-O-2A		045160-Tufts-O-2B	
		3/23/06		3/24/06		6/28/06		6/29/06		9/28/06		10/2/06		12/15/06		12/18/06	
		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.	
Analyte	Method	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Volatile Organic Compounds (VOCs)		TO-15															
Carbon Tetrachloride		< 1.3	< 0.81	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.6	0.095
Chloromethane		1.3 L	0.62 L	1.3 L	0.61 L	1.2	0.57	1.8	0.89	NT	NT	NT	NT	NT	NT	NT	NT
Methylene chloride		< 1.9 M	< 0.56 M	< 0.83 M	< 0.24 M	< 1.3 M	< 0.37 M	< 5.9 M	< 1.7 M	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.18 J	2.4	0.36	< 1.4	< 0.20	< 1.4	< 0.20	2	0.3	2.8	0.41
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	0.98	0.18
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	0.59	0.11

- General Notes:**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. ug/m<sup>3</sup> = micrograms per cubic meter.
  3. ppbV = parts per billion by volume.
  4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
  5. NT = Not Tested

- Qualifying Notes:**
- J The reported result is below the laboratory reporting limit and is estimated.
  - L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
  - M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.





Table 8  
Summary of Testing Results - Outdoor Air Samples  
(Tufts Street Residences)  
Tufts Street  
Somerville, MA

Sample Location: Sample Name: Sample Date: Collected By: Units:		Outdoor air samples in site vicinity								Backyard of 14 Dell Street			
		045160-Tufts-O-3A		045160-Tufts-O-4A		045160-Tufts-O-5A		045160-Tufts-O-6A		045162-Dell-O-1A		045162-Dell-O-1B	
		10/2/06		10/2/06		10/2/06		10/2/06		1/22/07		1/23/07	
		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.		GEI Consultants, Inc.	
Analyte	Method	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Volatile Organic Compounds (VOCs)		TO-15											
Carbon Tetrachloride		< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	0.75 J	0.12 J
Chloromethane		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Methylene chloride		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

- General Notes:**
- 1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - 2. ug/m<sup>3</sup> = micrograms per cubic meter.
  - 3. ppbV = parts per billion by volume.
  - 4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.
  - 5. NT = Not Tested

- Qualifying Notes:**
- J The reported result is below the laboratory reporting limit and is estimated.
  - L The reported result is estimated because the calculated relative percent difference (RPD) between a sample and the matrix duplicate was above the quality control limit specified in the Quality Assurance Project Plan (QAPP).
  - M The reporting limit is elevated due to a detection of the analyte in a method blank sample, trip blank sample, or both.



Table 9  
Summary of Testing Results - Indoor Air Samples  
(January 2007) (Other Residences)  
Dell, Knowlton and Tufts Streets  
Somerville, MA

Sample Location:		6 Dell Street, Basement		6 Dell Street, First Floor		9 Dell Street, Basement				9 Dell Street, First Floor		10 Dell Street, Basement		10 Dell Street, First Floor		14 Dell Street, Basement		14 Dell Street, First Floor	
Sample Name:		045162- 6Dell-B		045162- 6Dell-1		045162- 9Dell-B		045162- 9Dell-C (duplicate)		045162- 9Dell-1		045162- 10Dell-B		045162- 10Dell-1		045162- 14Dell-B		045162- 14Dell-1	
Sample Date: Collected By:		1/23/07 GEI		1/23/07 GEI		1/22/07 GEI		1/22/07 GEI		1/22/07 GEI		1/22/07 GEI		1/22/07 GEI		1/22/07 GEI		1/22/07 GEI	
Units:		ug/m <sup>3</sup> ppbV		ug/m <sup>3</sup> ppbV		ug/m <sup>3</sup> ppbV		ug/m <sup>3</sup> ppbV		ug/m <sup>3</sup> ppbV		ug/m <sup>3</sup> ppbV		ug/m <sup>3</sup> ppbV		ug/m <sup>3</sup> ppbV		ug/m <sup>3</sup> ppbV	
Analyte	Method																		
Volatile Organic Compounds (VOCs)		TO-15																	
Carbon tetrachloride		0.69 J	0.11 J	0.60 J	0.095 J	0.69 J	0.11 J	< 1.3	< 0.20	0.69 J	0.11 J	0.63 J	0.10 J	< 1.3	< 0.20	0.82 J	0.13 J	0.82 J	0.13 J
1,1-Dichloroethane		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
1,1-Dichloroethylene		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
cis-1,2-Dichloroethylene		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
Tetrachloroethylene (PCE)		< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20	< 1.4	< 0.20
1,1,1-Trichloroethane		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	1.1	0.2	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
Trichloroethylene (TCE)		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

- General Notes**
- Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - ug/m<sup>3</sup> = micrograms per cubic meter.
  - ppbV = parts per billion by volume.
  - "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

**Qualifying Note**

J The reported result is below the laboratory reporting limit and is estimated.





Table 9  
Summary of Testing Results - Indoor Air Samples  
(January 2007) (Other Residences)  
Dell, Knowlton and Tufts Streets  
Somerville, MA

Sample Location:		16 Dell Street, Basement		16 Dell Street, First Floor		22 Dell Street, Basement		22 Dell Street, First Floor		33 Knowlton Street, Basement		33 Knowlton Street, First Floor		37 Knowlton Street, Basement		60 Tufts Street Unit 4, Basement		60 Tufts Street Unit 4, First Floor	
Sample Name:		045162- 16Dell-B		045162- 16Dell-1		045162- 22Dell-B		045162- 22Dell-1		045162- 33Knowlton-B		045162- 33Knowlton-1		045162- 37Knowlton-B		045162- 60Tufts-Unit4B		045162- 60Tufts-Unit4	
Sample Date: Collected By:		1/22/07 GEI		1/22/07 GEI		1/22/07 GEI		1/22/07 GEI		1/22/07 GEI		1/22/07 GEI		1/23/07 GEI		1/23/07 GEI		1/23/07 GEI	
Units:		ug/m <sup>3</sup>		ug/m <sup>3</sup>		ug/m <sup>3</sup>		ug/m <sup>3</sup>		ug/m <sup>3</sup>		ug/m <sup>3</sup>		ug/m <sup>3</sup>		ug/m <sup>3</sup>		ug/m <sup>3</sup>	
Analyte	Method	ppbV		ppbV		ppbV		ppbV		ppbV		ppbV		ppbV		ppbV		ppbV	
Volatile Organic Compounds (VOCs)		TO-15																	
Carbon tetrachloride		0.63 J		0.10 J		0.75 J		0.12 J		< 1.3		< 0.20		< 1.3		< 0.20		< 1.3	
1,1-Dichloroethane		< 0.81		< 0.20		< 0.81		< 0.20		< 0.81		< 0.20		< 0.81		< 0.20		< 0.81	
1,1-Dichloroethylene		< 0.79		< 0.20		< 0.79		< 0.20		< 0.79		< 0.20		< 0.79		< 0.20		< 0.79	
cis-1,2-Dichloroethylene		< 0.79		< 0.20		< 0.79		< 0.20		< 0.79		< 0.20		< 0.79		< 0.20		< 0.79	
Tetrachloroethylene (PCE)		< 1.4		< 0.20		< 1.4		< 0.20		< 1.4		< 0.20		< 1.4		< 0.20		< 0.79	
1,1,1-Trichloroethane		< 1.1		< 0.20		< 1.1		< 0.20		< 1.1		< 0.20		< 1.1		< 0.20		< 0.79	
Trichloroethylene (TCE)		< 1.1		< 0.20		< 1.1		< 0.20		< 1.1		< 0.20		< 1.1		< 0.20		< 1.1	
		< 1.1		< 0.20		< 1.1		< 0.20		< 1.1		< 0.20		< 1.1		< 0.20		< 1.1	
		< 1.1		< 0.20		< 1.1		< 0.20		< 1.1		< 0.20		< 1.1		< 0.20		< 1.1	

- General Notes**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. ug/m<sup>3</sup> = micrograms per cubic meter.
  3. ppbV = parts per billion by volume.
  4. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

**Qualifying Note**

J The reported result is below the laboratory reporting limit and is estimated.



**Table 10**  
**Summary of Testing Results - Indoor Air Samples (February 2007) (January 2007) (Other Residences)**  
Franklin and Alston Street  
Somerville, MA

Sample Location:		93 Franklin Street, Basement		93 Franklin Street, First Floor		32 Alston Street		40 Alston Street	
Sample Name:		045162- 93 Franklin-B		045162- 93 Franklin-1		045162- 32 Alston-1		045162- 40 Alston-1	
Sample Date:		2/14/07		2/14/07		2/14/07		2/14/07	
Collected By:		GEI		GEI		GEI		GEI	
Units:									
Analyte	Method	ug/m <sup>3</sup>		ppbV		ug/m <sup>3</sup>		ppbV	
Volatile Organic Compounds (VOCs) Carbon tetrachloride 1,1-Dichloroethane 1,1-Dichloroethylene cis-1,2-Dichloroethylene Tetrachloroethylene (PCE) 1,1,1-Trichloroethane Trichloroethylene (TCE)	TO-15	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
		< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20
		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
		< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
		3.5	0.52	0.95 J	0.14 J	7.5	1.1	4.3	0.63
		< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20
		< 1.1	< 0.20	< 1.1	< 0.20	0.70 J	0.13 J	< 1.1	< 0.20

**General Notes**

1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
2. ug/m<sup>3</sup> = micrograms per cubic meter.
3. ppbV = parts per billion by volume.
6. "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

**Qualifying Note**

- J The reported result is below the laboratory reporting limit and is estimated.





**Table 11**  
**Soil Boring and Monitoring Well Summary**  
50 Tufts Street  
Somerville, Massachusetts

Location Name	Location Type	Installed By	Completion Date	Method	Well Diameter (in)	Well Screen Interval (ft)	Ground Surface Elevation (ft)	Screened Strata	Total Depth (ft)	Comment
GEO-1	Monitoring Well	Geolnsight	8/12/04	HSA	2	5 - 20	26.1	Sand	20	
GEO-2	Monitoring Well	Geolnsight	8/12/04	HSA	2	5 - 20	27.1	Sand	20	
GEO-3	Monitoring Well	Geolnsight	8/13/04	HSA	2	5 - 20	25.9	Sand	20	
GEO-4	Monitoring Well	Geolnsight	8/13/04	HSA	2	4 - 19	22.1	Sand	19	
GEO-5	Monitoring Well	Geolnsight	8/16/04	HSA	2	5 - 20	20.5	Sand, Silt and Clay	20	
GEO-6	Monitoring Well	Geolnsight	8/13/04	HSA	2	5 - 20	18.1	Sand	20	
GEO-7	Soil Boring Only	Geolnsight	8/16/04	HSA	NA	NA	unknown	NA	13	
MW-1	Monitoring Well	unknown	unknown	unknown	1	unknown	26.2	unknown	unknown	Boring/well log not provided
MW-2	Monitoring Well	unknown	unknown	unknown	1	unknown	25.5	unknown	unknown	Boring/well log not provided
MW-3	Monitoring Well	unknown	unknown	unknown	1	unknown	25.4	unknown	unknown	Boring/well log not provided
SH-1	Monitoring Well	SHA	6/21/02	Geoprobe	1	9 - 14	29.7	Sand	14	
SH-2	Monitoring Well	SHA	6/21/02	Geoprobe	1	7 - 14	29.7	Sand	14	
SH-3	Monitoring Well	SHA	6/21/02	Geoprobe	1	8 - 13	29.8	Sand	13	
SH-4	Monitoring Well	SHA	6/21/02	Geoprobe	1	11 - 16	29.8	Sand	16	
SH-5	Monitoring Well	SHA	6/21/02	Geoprobe	1	8 - 13	29.7	Sand and Gravel	13	
SH-B1	Soil Boring Only	SHA	6/21/02	Geoprobe	NA	NA	unknown	NA	15	
SH-B2	Soil Boring Only	SHA	6/21/02	Geoprobe	NA	NA	unknown	NA	12	
SH-MW1	Monitoring Well	SHA	7/3/02	HSA/Rock core	2	10 - 30	24.5	Silt, Clay and Bedrock	30	
SH-MW2	Monitoring Well	SHA	7/3/02	HSA	2	10 - 25	24.7	Silt and Clay	25	
SH-MW3	Monitoring Well	SHA	7/3/02	HSA	2	10 - 24	22.9	Silt and Clay	24	
Soil Boring-1	Soil Boring Only	Geolnsight	8/12/04	HSA	NA	NA	unknown	NA	11	Possibly SB1 on Fig. 17
Soil Boring-2	Soil Boring Only	Geolnsight	8/12/04	HSA	NA	NA	unknown	NA	10	Possibly SB2 on Fig. 17
MW101	Monitoring Well	GEI	5/1/06	HSA	2	9-19	27.0	Sand and Gravel	19	
MW102	Monitoring Well	GEI	5/1/06	HSA	2	6-16	19.2	Sand, Gravel and Clay	16	
MW103	Monitoring Well	GEI	5/1/06	HSA	2	6-16	19.8	Sand, Gravel and Silt	16	
MW104	Monitoring Well	GEI	5/1/06	HSA	2	5-15	17.9	Sand, Gravel and Silt	15	
MW105	Monitoring Well	GEI	5/24/06	Geoprobe	1	19-29	39.6	Sand, Gravel and Silt	29	
MW106	Monitoring Well	GEI	5/2/06	HSA	2	9-19	26.9	Sand, Gravel, Silt	21	
MW107	Monitoring Well	GEI	1/5/07	Geoprobe	2	2-12	15.1	Silt	21	
MW108	Monitoring Well	GEI	1/5/07	Geoprobe	2	2-12	13.1	Sand, Gravel, and Silt	12	
MW109	Monitoring Well	GEI	1/5/07	Geoprobe	2	3-13	24.7	Sand and Gravel	15.25	
MW110	Monitoring Well	GEI	1/5/07	Geoprobe	2	3-13	16.0	Silty Sand, Silt	16	
MW111	Monitoring Well	GEI	1/8/07	Geoprobe	2	4-14	19.4	Sand, Gravel, and Silt	16	
MW112	Monitoring Well	GEI	1/8/07	Geoprobe	2	3-10	18.6	Silty Sand, Silt	10	
MW112-A	Monitoring Well	GEI	3/10/07	HSA	2	4-19	18.1	Sand, Gravel, and Silt	19	
MW113	Monitoring Well	GEI	2/15/07	Geoprobe	2	10-20	26.6	Sand, Gravel, and Silt	20	
MW114	Monitoring Well	GEI	2/15/07	Geoprobe	2	7-17	29.8	Sand, Gravel, and Silt	17	
MW115	Monitoring Well	GEI	2/21/07	HSA	2	10-25	27.3	Sand, Gravel, and Silt	25	
MW116	Monitoring Well	GEI	3/10/07	HSA/Air Rotary	2	5-15	13.0	Bedrock	15	

**General Notes:**

- Information on locations installed by Geolnsight and SHA based on boring and monitoring well logs prepared by Geolnsight and SHA, except for well diameters, which were measured in the field.
- in = inches.
- ft = feet.
- NGVD = National Geodetic Vertical Datum of 1929.
- SHA = Sanborn Head & Associates, Inc.
- NA = not applicable.
- Monitoring wells MW-1 through MW-2 were installed prior to SHAs investigation, which was conducted in 2002.
- HSA = hollow stem auger.



Table 12  
Summary of Testing Results - Soil Samples  
50 Tufts Street  
Somerville, MA

Location Name: Sample Depth (ft bgs): Sample Name: Sample Date: Collected By: Geologic Unit:			GEO-1		GEO-4	SH-MW1	SH-MW2	SH-MW3	SH-1	SH-2	SH-3	SH-4	SH-5	SH-B1	MW101				MW102	
			0-2 GEO-1 8/12/04 Geolnsight Sand	6-8 GEO-1 8/12/04 Geolnsight Sand	11-13 GEO-4 8/13/04 Geolnsight Sand	10-12 SH MW1 S3 7/3/02 SHA Silt and Clay	15-17 SH MW2 S4 7/3/02 SHA Silt and Clay	15-17 SH MW3 S4 7/3/02 SHA Clay and Silt	12-14 SH1 S4 6/21/02 SHA Sand	4-5 SH2 S2A 6/21/02 SHA Sand	3-4 SH3 S1D 6/21/02 SHA Sand and Silt	8-12 SH4 S3 6/21/02 SHA Sand	4-8 SH5 S2 6/21/02 SHA Sand and Silt	8-12 SHB1 S3 6/21/02 SHA Sand	2-3 MW101 S1 4/27/06 GEI Sand and Gravel	13.5-15.5 MW101 S4 5/1/06 GEI Sand	15.5-17.5 MW101 S5 5/1/06 GEI Sand	17.5-19.5 MW101 S6 5/1/06 GEI Sand	2-3 MW102 S1 4/27/06 GEI Sand and Gravel	12.5-14.6 MW102 S5 5/1/06 GEI Sand and Gravel
Analyte	Method	Units																		
Volatile Organic Compounds (VOCs)																				
Butanone, 2- (MEK)	8260B	mg/kg	< 0.673	< 0.950	< 0.556	< 0.0074	< 1	< 0.0088	< 5.5	< 7.7	< 6.4	< 0.540	< 6.6	1.1	< 0.33	< 0.25	< 0.26	< 0.23	< 0.29	< 0.21
Dichloroethane, 1,1-			< 0.067	< 0.095	< 0.056	< 0.001	< 0.160	< 0.0013	< 0.820	< 1.20	< 0.960	< 0.08	< 0.990	< 0.100	< 0.13	< 0.1	< 0.1	< 0.093	< 0.12	< 0.083
Dichloroethene, cis-1,2-			< 0.067	< 0.095	< 0.056	< 0.00074	< 0.100	< 0.00088	< 0.550	< 0.770	< 0.640	< 0.054	< 0.660	< 0.071	< 0.13	< 0.1	< 0.1	< 0.093	< 0.12	< 0.083
Ethylbenzene			< 0.067	< 0.095	< 0.056	< 0.00074	< 0.100	< 0.00088	< 0.550	< 0.770	< 0.640	< 0.054	< 0.660	< 0.071	< 0.13	< 0.1	< 0.1	< 0.093	< 0.12	< 0.083
4-Methyl - 2 - pentanone (MIBK)			< 0.673	< .950	< .556	< 0.00074	< 0.100	< 0.0088	< 5.5	< 7.70	< 6.40	< 0.540	< 6.6	0.86	< 0.33	< 0.25	< 0.26	< 0.23	< 0.29	< 0.21
Methylene Chloride			< 0.673	< 0.950	< 0.556	< 0.0074	< 1	< 0.0088	< 5.5	< 1.20	< 0.960	< 0.540	< 6.6	< 0.100	< 0.130	< 0.1	< 0.1	< 0.093	< 0.12	< 0.083
Tetrachloroethylene (PCE)			2.45	8.07	0.111	0.01	23	0.16	1500	1800	140	4.8	61	7.8	0.989	0.0649 J	0.054 J	0.0699 J	< 0.12	0.164
Toluene			< 0.0673	< 0.095	< 0.0556	0.0037	< 0.160	< 0.0013	< 0.82	< 1.2	< 0.96	< 0.08	< 0.990	< 0.1	< 0.33	< 0.25	< 0.26	< 0.23	< 0.29	< 0.21
Trichloroethane, 1,1,1-			0.145	1.33	0.0795	< 0.00074	0.24	0.0091	< 0.55	< 0.770	< 0.640	0.37	< 0.660	2.7	0.0767 J	< 0.1	< 0.1	< 0.093	< 0.12	< 0.083
Trichloroethylene (TCE)			0.164	1.12	< 0.0556	< 0.00074	0.32	0.0062	< 0.55	2.0	< 0.640	1.4	< 0.660	4.4	0.358	< 0.1	< 0.1	< 0.093	< 0.12	< 0.083
Xylene, m,p-			< 135	< .190	< .111	< 0.00074	< 0.100	< 0.00088	< 0.550	< 0.770	< 0.640	< 0.054	< 0.660	< 0.071	< 0.13	< 0.1	< 0.1	< 0.093	< 0.12	< 0.083
Xylene, o-			< 67.3	< .095	< 0.556	< 0.00074	< 0.100	< 0.00088	< 0.550	< 0.770	< 0.640	< 0.054	< 0.660	< 0.071	< 0.13	< 0.1	< 0.1	< 0.093	< 0.12	< 0.083
Total Xylenes			< 135	< .190	< 0.111	< 0.00074	< 0.100	< 0.00088	< 0.550	< 0.770	< 0.640	< 0.054	< 0.660	< 0.071	< 0.13	< 0.1	< 0.1	< 0.093	< 0.12	< 0.083
Total VOCs			2.76	10.5	0.191	0.0137	23.6	0.175	1500	1800	140	6.57	61	16.9	1.42	0.0649 J	0.054 J	0.0699 J	ND	0.16
Volatile Petroleum Hydrocarbons (VPH)																				
C5-C8 Aliphatics	MAVPH	mg/kg	NT	NT	NT	NT	NT	NT	300	833	43	< 1.75	NT	2.95	NT	NT	NT	NT	NT	NT
Extractable Petroleum Hydrocarbons (EPH)																				
C19-C36 Aliphatics	MAEPH	mg/kg	NT	NT	NT	NT	NT	NT	< 10.9	144	< 11.2	< 10.6	< 12.8	< 11.1	NT	NT	NT	NT	NT	NT
C11-C22 Aromatics									< 10.9	916	86.4	< 10.6	41.0	< 11.1						
Other																				
Solids, Percent	EPA 160.3 M	%	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Specific Conductivity	EPA 120.1M	umhos/cm																		
Total Organic Carbon	CORP ENG 81M/SW9060M	mg/kg																		
pH	SW846 9045	su																		

- General Notes:**
- Generally, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - \*< = The analyte was not detected at a concentration above the specified limit.
  - ft bgs = feet below ground surface.
  - mg/kg = milligrams per kilogram.
  - SHA = Sanborn Head & Associates.
  - ND = The analyte was not detected above the laboratory reporting limit.  
See the laboratory data sheets for the laboratory reporting limit.
  - NT = Not tested

**Qualifying Note:**  
J The reported result is below the laboratory reporting limit and is estimated.





Table 12  
Summary of Testing Results - Soil Samples  
50 Tufts Street  
Somerville, MA

Location Name: Sample Depth (ft bgs): Sample Name: Sample Date: Collected By: Geologic Unit:			MW103			MW104			MW105		MW106				MW107			
			2-3	6-8	14-16	0-5	5-10	10-15	2-3	23-25	3	2-4	12-14	16-18	3	2-4	7-9	20-21
			MW103 S1	MW103 S2	MW103 S6	MW104 S1	MW104 S2	MW104 S3C	MW105 S1	MW105 S9	B106-VAC-GRAB	B106-VAC-COMP	B106(12-14')	045126-B106(16-18')	B107-VAC-GRAB	B107-VAC-COMP	B107(7-9')	B107(20-21')
			4/27/06 GEI Sand and Gravel	5/1/06 GEI Sandy Silt	5/1/06 GEI Sand	5/17/06 GEI Silty Sand	5/17/06 GEI Sandy Silt	5/17/06 GEI Silty Sand	4/28/06 GEI Sand and Gravel	5/2/06 GEI Sand	1/3/07 GEI	1/3/07 GEI	1/5/07 GEI	1/5/07 GEI	1/3/07 GEI	1/3/07 GEI	1/5/07 GEI	1/5/07 GEI
Analyte	Method	Units																
Volatile Organic Compounds (VOCs)	8260B	mg/kg	ND	ND					ND	ND	ND	NT	ND	ND	ND	NT	ND	
Butanone, 2- (MEK)					< 0.21	< 0.32	< 0.23	< 0.26										< 0.17
Dichloroethane, 1,1-					< 0.082	< 0.13	< 0.092	1.39										0.145
Dichloroethene, cis-1,2-					< 0.082	< 0.13	< 0.092	1.44										< 0.069
Ethylbenzene					< 0.082	0.0416 J	< 0.092	< 0.1										< 0.069
4-Methyl - 2 - pentanone (MIBK)					< 0.21	< 0.32	< 0.23	< 0.26										< 0.17
Methylene Chloride					< 0.082	< 0.13	< 0.092	< 0.100										< 0.069
Tetrachloroethylene (PCE)					0.722	0.949	4.25	0.564										< 0.069
Toluene					< 0.21	0.0757 J	0.0216 J	< 0.26										< 0.17
Trichloroethane, 1,1,1-					< 0.082	< 0.13	< 0.092	0.781										< 0.069
Trichloroethylene (TCE)					< 0.082	< 0.13	0.093	0.593										< 0.069
Xylene, m,p-					< 0.082	0.125 J	< 0.092	< 0.1										< 0.069
Xylene, o-					< 0.082	0.0571 J	< 0.092	< 0.1										< 0.069
Total Xylenes					< 0.082	0.182	< 0.092	< 0.1										< 0.069
Total VOCs					0.72	1.43	4.37	4.77										0.145
Volatile Petroleum Hydrocarbons (VPH)	MAVPH	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
C5-C8 Aliphatics																		
Extractable Petroleum Hydrocarbons (EPH)	MAEPH	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
C19-C36 Aliphatics																		
C11-C22 Aromatics																		
Other			NT	NT	NT	NT	NT	NT	NT	NT	NT				NT			
Solids, Percent	EPA 160.3 M	%										85.3	86.7	85.9		79.8	76.5	93.3
Specific Conductivity	EPA 120.1M	umhos/cm										137	1420	883		142	205	214
Total Organic Carbon	CORP ENG 81M/SW9060M	mg/kg										28200	< 1100	< 1100		4090	< 1300	< 1000
pH	SW846 9045	su										6.9	7.1	6.8		7.3	7.5	7.1

- General Notes:**
- Generally, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - "<" = The analyte was not detected at a concentration above the specified limit.
  - ft bgs = feet below ground surface.
  - mg/kg = milligrams per kilogram.
  - SHA = Sanborn Head & Associates.
  - ND = The analyte was not detected above the laboratory reporting limit.  
See the laboratory data sheets for the laboratory reporting limit.
  - NT = Not tested

**Qualifying Note:**  
J The reported result is below the laboratory reporting limit and is estimated.





Table 12  
Summary of Testing Results - Soil Samples  
50 Tufts Street  
Somerville, MA

Location Name: Sample Depth (ft bgs): Sample Name: Sample Date: Collected By: Geologic Unit:			MW108			MW109				MW110				MW111			
			3	2-4	7-8	3	2-4	7-9	13-15	3	2-4	7-9	13-14	3	2-4	7-9	13-15
			B108-VAC-GRAB	B108-VAC-COMP	B108(7-8')	B109-VAC-GRAB	B109-VAC-COMP	B109(7-9')	B109(13-15')	B110-VAC-GRAB	B110-VAC-COMP	B110(7-9')	B110	B111-VAC-GRAB	B111-VAC-COMP	B111(7-9')	B111(13-15')
			1/3/07	1/3/07	1/5/07	1/3/07	1/3/07	1/5/07	1/5/07	1/4/07	1/4/07	1/8/07	1/8/07	1/4/07	1/4/07	1/8/07	1/8/07
			GEI	GEI	GEI	GEI	GEI	GEI	Gei	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	Method	Units															
Volatile Organic Compounds (VOCs)	8260B	mg/kg	ND	NT	ND	< 0.1	NT	ND	< 0.19	ND	NT	ND	ND	ND	NT	ND	< 0.19
Butanone, 2- (MEK)						< 0.1			< 0.075								< 0.075
Dichloroethane, 1,1-						< 0.1			< 0.075								< 0.075
Dichloroethene, cis-1,2-						< 0.1			< 0.075								< 0.075
Ethylbenzene						< 0.1			< 0.075								< 0.19
4-Methyl - 2 - pentanone (MIBK)						< 0.26			< 0.19								0.0176 J
Methylene Chloride						< 0.1			< 0.075								3.15
Tetrachloroethylene (PCE)						0.324			0.242								< 0.19
Toluene						< 0.26			< 0.19								< 0.075
Trichloroethane, 1,1,1-						< 0.1			< 0.075								0.0469 J
Trichloroethylene (TCE)						< 0.1			< 0.075								< 0.075
Xylene, m,p-						< 0.1			< 0.075								< 0.075
Xylene, o-						< 0.1			< 0.075								< 0.075
Total Xylenes						< 0.1			< 0.075								< 0.075
Total VOCs						0.324			0.245								0.0645
Volatile Petroleum Hydrocarbons (VPH)	MAVPH	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
C5-C8 Aliphatics																	
Extractable Petroleum Hydrocarbons (EPH)	MAEPH	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
C19-C36 Aliphatics																	
C11-C22 Aromatics																	
Other			NT			NT				NT				NT			
Solids, Percent	EPA 160.3 M	%		86.7	76.5		79.9	85.3	89.2		81	77.3	77.4		89.4	80.1	90.3
Specific Conductivity	EPA 120.1M	umhos/cm		109	900		109	306	254		262	614	606		107	146	226
Total Organic Carbon	CORP ENG 81M/SW9060M	mg/kg		4430	6650		5580	4620	< 1100		4380	3660	1630		< 1000	< 1200	< 1100
pH	SW846 9045	su		6.8	7		5.9	9.2	8.2		6.8	7	6.5		8.1	6.8	6.8

- General Notes:**
- Generally, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - \*< = The analyte was not detected at a concentration above the specified limit.
  - ft bgs = feet below ground surface.
  - mg/kg = milligrams per kilogram.
  - SHA = Sanborn Head & Associates.
  - ND = The analyte was not detected above the laboratory reporting limit.  
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**Qualifying Note:**  
J The reported result is below the laboratory reporting limit and is estimated.



Table 12  
Summary of Testing Results - Soil Samples  
50 Tufts Street  
Somerville, MA

Location Name: Sample Depth (ft bgs): Sample Name: Sample Date: Collected By: Geologic Unit:			MW112			MW112A			MW113				MW114			MW115	
			3	2-4	6-7	0-3'	10-12'	17-19'	2-4'	11-13'	11-13'	19-21'	2-4'	11-13'	19-20'	2-4'	18-20'
			B112-VAC-GRAB	B112-VAC-COMP	B112(6-7')	B112A (0-3')	B112A (10-12')	B112A (17-19')	MW113(2-4')	MW113(11-13')	MW100	MW113(19-21')	MW114(2-4')	MW114(11-13')	MW114(19-20')	MW115(2-4')	MW115(18-20')
			1/4/07	1/4/07	1/8/07	3/10/07	3/10/07	3/10/07	2/13/07	2/15/07	2/15/07	2/15/07	2/13/07	2/15/07	2/15/07	2/13/07	2/13/07
			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	Method	Units															
Volatile Organic Compounds (VOCs)	8260B	mg/kg	ND	NT	ND	ND			ND	ND	ND	ND	ND	ND	ND	ND	ND
Butanone, 2- (MEK)							< 0.2	0.0184									
Dichloroethane, 1,1-							< 0.081	0.0265 J									
Dichloroethene, cis-1,2-							< 0.081	< 0.087									
Ethylbenzene							< 0.081	< 0.087									
4-Methyl - 2 - pentanone (MIBK)							< 0.2	< 0.22									
Methylene Chloride							< 0.081	< 0.087									
Tetrachloroethylene (PCE)							0.0471 J	1.04									
Toluene							< 0.2	< 0.22									
Trichloroethane, 1,1,1-							< 0.081	< 0.087									
Trichloroethylene (TCE)							< 0.081	0.138									
Xylene, m,p-							< 0.081	< 0.087									
Xylene, o-							< 0.081	< 0.087									
Total Xylenes							< 0.081	< 0.087									
Total VOCs							0.0471 J	1.223									
Volatile Petroleum Hydrocarbons (VPH)	MAVPH	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
C5-C8 Aliphatics																	
Extractable Petroleum Hydrocarbons (EPH)	MAEPH	mg/kg	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
C19-C36 Aliphatics																	
C11-C22 Aromatics																	
Other			NT			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Solids, Percent	EPA 160.3 M	%		81.8	76.5												
Specific Conductivity	EPA 120.1M	umhos/cm		1980	685												
Total Organic Carbon	CORP ENG 81M/SW9060M	mg/kg		4600	< 1300												
pH	SW846 9045	su		6.8	7.2												

General Notes:

- Generally, only analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
- "<" = The analyte was not detected at a concentration above the specified limit.
- ft bgs = feet below ground surface.
- mg/kg = milligrams per kilogram.
- SHA = Sanborn Head & Associates.
- ND = The analyte was not detected above the laboratory reporting limit.  
See the laboratory data sheets for the laboratory reporting limit.
- NT = Not tested

Qualifying Note:

- J The reported result is below the laboratory reporting limit and is estimated.





Table 13  
Summary of Testing Results - Soil Vapor Samples  
50 Tufts Street  
Somerville, MA

Sample Location: Sample Name:		MW106 045162-MW106		MW106 045162-MW900 (Field Duplicate of MW106)		MW107 045162-MW107		MW108 045162-MW108		MW109 045162-MW109		MW110 045162-MW110		MW111 045162-MW111		MW112 045162-MW112		MW113 045162-MW113		MW114 045162-MW114		MW115 045162-MW115	
Sample Date: Collected By:		1/18/07 GEI		1/18/07 GEI		1/17/07 GEI		1/17/07 GEI		1/17/07 GEI		1/17/07 GEI		1/17/07 GEI		1/17/07 GEI		2/19/07 GEI		2/19/07 GEI		2/19/07 GEI	
Units:		ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV	ug/m <sup>3</sup>	ppbV
Analyte	Method																						
Volatile Organic Compounds (VOCs)		TO-15																					
Chloroethane		<2.6	<1.0	<1.1	<0.40	5.5	2.1	<0.53	<0.20	<53	<20	<0.53	<0.20	<530	<200	<0.53	<0.20	< 5.3	< 2.0	< 5.3	< 2.0	< 5.3	< 2.0
Carbon tetrachloride		<6.3	<1.0	<2.5	<0.40	0.94 J	0.15 J	0.62 J	0.098 J	<130	<20	<1.3	<0.20	<1300	<200	0.69J	0.11 J	< 13	< 2.0	< 31	< 5.0	< 13	< 2.0
1,1 Dichloroethane		12	3	3.7	0.92	97.5	24.1	<0.81	<0.20	<81	<20	<0.81	<0.20	943	233	<0.81	<0.20	8.1	2.0	< 8.1	< 2	< 8.1	< 2
1,1-Dichloroethylene		204	51.5	58.7	14.8	70.6	17.8	<0.79	<0.20	<79	<20	<0.79	<0.20	619 J	156 J	<0.79	<0.20	21	5.2	< 7.9	< 2	< 7.9	< 2
cis-1,2-Dichloroethylene		<4.0	<1.0	<1.6	<0.40	<0.79	<0.20	<0.79	<0.20	<79	<20	<0.79	<0.20	<790	<200	<0.79	<0.20	<7.9	<2.0	<7.9	< 2	<7.9	<2
Tetrachloroethylene (PCE)		47	6.9	16	2.4	0.95 J	0.14 J	94.9	14	9020	1330	<1.4	<0.20	269000	39700	2.8	0.41	8.8 J	1.3 J	< 14	< 2	42	6.2
1,1,1-Trichloroethane		520	95.3	170	31.2	4	0.74	<1.1	<0.20	573	105	<1.1	<0.20	4650	853	<1.1	<0.20	11	2.0	< 11	< 2	< 11	< 2
Trichloroethylene (TCE)		69.9	13	22	4.1	5.9	1.1	<1.1	<0.20	<110	<20	<1.1	<0.20	2600	484	<1.1	<0.20	16	3.0	4	0.75	15	2.7
Vinyl Chloride		<2.6	<1.0	<1.0	<0.40	4.1	1.6	<0.51	<0.20	<51	<20	<0.51	<0.20	<510	<200	<0.51	<0.20	< 5.1	< 2.0	< 5.1	< 2.0	< 5.1	< 2.0

- General Notes:**
- Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data
  - ug/m<sup>3</sup> = micrograms per cubic meter.
  - ppbV = parts per billion by volume.
  - "<" = The analyte was not detected at a concentration above the specified laboratory reporting limit.

**Qualifying Note:**  
J The reported result is below the laboratory reporting limit and is estimated.



Table 14  
Monthly Groundwater Elevations  
50 Tufts Street  
Somerville, Massachusetts

Location Name	Well Screen Interval (ft bgs)	Gauging Date:	5/15/06		5/16/06		5/23/06		5/31/06		7/24/06		8/1/06		8/3/06		8/16/06	
		Elevation of Measuring Point (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)
MW-1	unknown	25.9	9.69	16.21	9.53	16.37	10.9	15	11.39	14.51	--	--	--	--	--	--	11.9	14
MW-2	unknown	25.38	8.99	16.39	10.36	15.02	Dry	Dry	Dry	Dry	--	--	--	--	--	--	Dry	Dry
MW-3	unknown	25.31	8.88	16.43	9.32	15.99	11.16	14.15	12.71	12.6	--	--	--	--	--	--	13.73	11.58
MW-101	9-19	26.75	--	--	10.56	16.19	11.53	15.22	12.1	14.65	12.33	14.42	12.51	14.24	13.47	13.28	12.78	13.97
MW-102	6-16	18.89	--	--	6.62	12.27	6.86	12.03	7.44	11.45	7.93	10.96	8.16	10.73	9.11	9.78	8.51	10.38
MW-103	6-16	19.47	--	--	9.5	9.97	10.37	9.1	10.74	8.73	11.15	8.32	11.31	8.16	12.24	7.23	11.72	7.75
MW-104	5-15	17.67	--	--	--	--	7.93	9.74	8.89	8.78	9.06	8.61	9.39	8.28	10.29	7.38	9.87	7.8
MW-105	19-29	38.84	--	--	19.49	19.35	20.21	18.63	20.7	18.14	21.18	17.66	21.43	17.41	22.41	16.43	21.91	16.93
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108	2 - 12	12.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-109	3 - 13	24.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-112a	4-19	17.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-113	10-20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114	7-17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-115	10-25	27.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-116	5-15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GEO-1	5 - 20	25.88	9.69	16.19	9.9	15.98	10.92	14.96	11.36	14.52	--	--	--	--	--	--	11.82	14.06
GEO-2	5 - 20	26.54	9.76	16.78	--	--	11.38	15.16	11.91	14.63	--	--	--	--	--	--	12.51	14.03
GEO-3	5 - 20	25.64	10.43	15.21	9.59	16.05	9.87	15.77	10.67	14.97	11.67	13.97	11.85	13.79	12.84	12.8	12.25	13.39
GEO-4	4 - 19	21.69	--	--	7.79	13.9	9.85	11.84	10.78	10.91	11.25	10.44	11.45	10.24	12.43	9.26	11.9	9.79
GEO-5	5 - 20	20.14	--	--	6.78	13.36	9.08	11.06	9.96	10.18	10.29	9.85	10.56	9.58	11.51	8.63	10.99	9.15
GEO-6	5 - 20	17.62	--	--	5.66	11.96	7.39	10.23	8.23	9.39	8.43	9.19	8.73	8.89	9.64	7.98	9.25	8.37
SH-1	9 - 14	29.55	10.15	19.4	11.4	18.15	Dry	Dry	Dry	Dry	--	--	--	--	--	--	Dry	Dry
SH-2	7 - 14	29.64	5.71	23.93	7.86	21.78	12.07	17.57	12.22	17.42	--	--	--	--	--	--	11.98	17.66
SH-3	8 - 13	29.66	7.54	22.12	8.56	21.1	12.73	16.93	12.96	16.7	--	--	--	--	--	--	Dry	Dry
SH-4	11 - 16	29.63	13.53	16.1	13.48	16.15	14.48	15.15	15.02	14.61	--	--	--	--	--	--	15.09	14.54
SH-5	8 - 13	29.63	Dry	Dry	--	--	12.99	16.64	13.03	16.6	--	--	--	--	--	--	Dry	Dry
SH-MW1	10 - 30	24.02	6.72	17.3	--	--	11.44	12.58	12.18	11.84	--	--	--	--	--	--	13.09	10.93
SH-MW2	10 - 25	24.27	9.33	14.94	--	--	12.05	12.22	12.69	11.58	--	--	--	--	--	--	13.38	10.89
SH-MW3	10 - 24	22.31	7.8	14.51	--	--	10.26	12.05	11.03	11.28	--	--	--	--	--	--	13	9.31

- General Notes:**
- 1. ft = feet
  - 2. bgs = below ground surface.
  - 3. NGVD = National Geodetic Vertical Datum of 1929.
  - 4. The top of the PVC riser was used as the measuring point for depth to groundwater.
  - 5. "--" = Well not yet installed, or not measured.





Table 14  
Monthly Groundwater Elevations  
50 Tufts Street  
Somerville, Massachusetts

		Gauging Date:	9/29/06		10/4/06		11/14/06		12/12/06		1/16/07		2/12/07		3/14/07		4/12/2007	
Location Name	Well Screen Interval (ft bgs)	Elevation of Measuring Point (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)	Depth to Groundwater (ft)	Elevation of Groundwater (ft NGVD)
MW-1	unknown	25.9	--	--	11.88	14.02	--	--	--	--	11.6	14.3	--	--	--	--	11.39	14.51
MW-2	unknown	25.38	--	--	--	--	--	--	--	--	Destroyed	Destroyed	--	--	--	--	--	--
MW-3	unknown	25.31	--	--	13.75	11.56	--	--	--	--	13.05	12.26	--	--	--	--	12.57	12.74
MW-101	9-19	26.75	12.85	13.9	12.76	13.99	12.25	14.5	12.57	14.18	12.4	14.35	12.81	13.94	12.34	14.41	12.11	14.64
MW-102	6-16	18.89	8.68	10.21	8.52	10.37	7.64	11.25	8.01	10.88	7.72	11.17	8.52	10.37	--	--	7.46	11.43
MW-103	6-16	19.47	11.98	7.49	11.92	7.55	11	8.47	11.21	8.26	10.88	8.59	11.74	7.73	11	8.47	10.66	8.81
MW-104	5-15	17.67	9.95	7.72	9.92	7.75	--	--	--	--	8.73	8.94	--	--	--	--	8.75	8.92
MW-105	19-29	38.84	22.27	16.57	22.18	16.66	21.16	17.68	21.76	17.08	21.46	17.38	22.03	16.81	21.56	17.28	20.88	17.96
MW-106	9 - 19	26.33	--	--	--	--	--	--	--	--	--	--	12.27	14.06	12.91	13.42	11.65	14.68
MW-107	2 - 12	14.63	--	--	--	--	--	--	--	--	--	--	4.54	10.09	4.5	10.13	4.49	10.14
MW-108	2 - 12	12.74	--	--	--	--	--	--	--	--	--	--	4.93	7.81	4.02	8.72	9.91	2.83
MW-109	3 - 13	24.12	--	--	--	--	--	--	--	--	--	--	12.07	12.05	11.27	12.85	10.27	13.85
MW-110	3 - 13	15.58	--	--	--	--	--	--	--	--	--	--	5.99	9.59	1.46	14.12	1.04	14.54
MW-111	4 - 14	18.95	--	--	--	--	--	--	--	--	--	--	11.38	7.57	10.62	8.33	10.65	8.3
MW-112	3 - 10	18.16	--	--	--	--	--	--	--	--	--	--	Dry	Dry	8.01	10.15	Dry	Dry
MW-112a	4-19	17.78	--	--	--	--	--	--	--	--	--	--	--	--	12.76	5.02	12.76	5.02
MW-113	10-20	26.16	--	--	--	--	--	--	--	--	--	--	--	--	11.66	14.5	11.44	14.72
MW-114	7-17	29.43	--	--	--	--	--	--	--	--	--	--	--	--	12.67	16.76	11.27	18.16
MW-115	10-25	27.15	--	--	--	--	--	--	--	--	--	--	--	--	17.19	9.96	16.21	10.94
MW-116	5-15	13.45	--	--	--	--	--	--	--	--	--	--	--	--	8.78	4.67	8.34	5.11
GEO-1	5 - 20	25.88	--	--	11.85	14.03	--	--	--	--	11.55	14.33	--	--	--	--	11.36	14.52
GEO-2	5 - 20	26.54	--	--	12.51	14.03	--	--	--	--	12.2	14.34	--	--	--	--	11.97	14.57
GEO-3	5 - 20	25.64	12.37	2.84	12.35	13.29	11.63	14.01	11.72	13.92	11.58	14.06	12.21	13.43	11.49	14.15	10.76	14.88
GEO-4	4 - 19	21.69	12.09	9.6	12.04	9.65	10.58	11.11	11.31	10.38	10.77	10.92	11.83	9.86	11.03	10.66	10.51	11.18
GEO-5	5 - 20	20.14	11.21	8.93	11.15	8.99	9.47	10.67	10.48	9.66	9.73	10.41	11.02	9.12	10.15	9.99	9.7	10.44
GEO-6	5 - 20	17.62	9.41	8.21	9.26	8.36	7.65	9.97	8.82	8.8	8.11	9.51	9.3	8.32	8.54	9.08	8.32	9.3
SH-1	9 - 14	29.55	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--	--	--	--	--
SH-2	7 - 14	29.64	--	--	12	17.64	--	--	--	--	Dry	Dry	--	--	--	--	--	--
SH-3	8 - 13	29.66	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--	--	--	--	--
SH-4	11 - 16	29.63	--	--	15.1	14.53	--	--	--	--	Dry	Dry	--	--	--	--	--	--
SH-5	8 - 13	29.63	--	--	Dry	Dry	--	--	--	--	Dry	Dry	--	--	--	--	--	--
SH-MW1	10 - 30	24.02	--	--	13.17	10.85	--	--	--	--	12.21	11.81	--	--	--	--	12.01	12.01
SH-MW2	10 - 25	24.27	--	--	13.41	10.86	--	--	--	--	12.73	11.54	--	--	--	--	12.61	11.66
SH-MW3	10 - 24	22.31	--	--	12.04	10.27	--	--	--	--	11.04	11.27	--	--	--	--	10.81	11.5

- General Notes:**
- 1. ft = feet
  - 2. bgs = below ground surface.
  - 3. NGVD = National Geodetic Vertical Datum of 1929.
  - 4. The top of the PVC riser was used as the measuring point for depth to groundwater.
  - 5. "--" = Well not yet installed, or not measured.





Table 15  
Summary of Testing Results - Groundwater Samples  
50 Tufts Street  
Somerville, MA

Sample Location: Well Screen Interval (ft bgs): Sample Date: Collected by:			SH-1 9-14	SH-3 8-13	SH-4 11-16	SH-MW1 10-30				SH-MW2 10-25					SH-MW3 10-24				MW-1 unknown			
			8/9/04 Geolnsight	8/9/04 Geolnsight	5/25/06 GEI	7/8/02 SHA	5/23/06 GEI	10/4/06 GEI	1/16/07 GEI	7/8/02 SHA	8/16/04 Geolnsight	5/23/06 GEI	10/4/06 GEI	1/16/07 GEI	7/8/02 SHA	5/23/06 GEI	10/4/06 GEI	1/17/07 GEI	7/1/02 SHA	8/9/04 Geolnsight	5/23/06 GEI	1/17/07 GEI
Analyte	Method	Units																				
Volatile Organic Compounds (VOCs)																						
Acetone	8260B	ug/L	< 4000	< 2000	30	< 2500	< 5	< 5	< 5	< 250	< 2000	< 5	< 5	< 5	< 2500	< 5	< 5	< 500	< 50000	< 40000	40	36.1
Benzene			< 200	< 100	< 0.5	< 250	< 0.5	0.61	< 0.5	< 25	< 100	< 0.5	< 0.5	< 0.5	< 250	< 0.5	< 0.5	< 50	< 5000	< 2000	2	< 0.5
Bromoform			< 200	< 100	< 1	< 250	< 1	< 1	< 1	< 25	< 100	< 1	< 1	< 1	< 250	< 1	< 1	< 100	< 5000	< 2000	< 1	< 1
Carbon tetrachloride			< 200	< 100	< 1	< 250	< 1	< 1	< 1	< 25	< 100	< 1	< 1	< 1	< 250	< 1	< 1	< 100	< 5000	< 2000	19	22.4
Carbon disulfide			< 1000	< 500	< 5	< 2500	< 5	< 5	< 5	< 250	< 500	< 5	< 5	< 5	< 2500	< 5	< 5	< 500	< 50000	< 10000	< 5	< 5
Chlorobenzene			< 200	< 100	< 1	< 250	< 1	0.52 J	< 1	< 25	< 100	< 1	< 1	< 1	< 250	< 1	< 1	< 100	< 5000	< 2000	1.1	1.2
Chloroethane			< 400	< 200	< 2	< 500	< 2	< 2	< 2	< 50	< 200	< 2	< 2	< 2	< 500	< 2	< 2	< 100	< 10000	< 4000	< 2	< 2
Chloroform			< 200	< 100	13.3	< 380	2.1	4.6	1.7	< 38	< 100	< 1	< 1	< 1	< 380	0.88 J	0.81 J	< 100	< 7500	< 2000	3.7	1.6
Chloromethane			< 400	< 200	< 2	< 1200	< 2	< 2	< 2	< 120	< 200	< 2	< 2	< 2	< 1200	< 2	< 2	< 200	< 25000	< 4000	< 2	14.6
Dichloroethane, 1,1-			< 200	< 100	15.9	< 380	11.4	12	8.5	< 38	< 100	1	20.9	5.7	< 380	21.6	36.5	< 100	< 7500	< 2000	59.8	59.9
Dichloroethane, 1,2-			< 200	< 100	103	< 250	< 1	< 1	< 1	< 25	< 100	< 1	< 1	< 1	< 250	< 1	< 2	< 200	< 5000	< 2000	4	< 2
Dichloroethene, 1,1-			< 200	< 100	556	< 250	11.7	19.3	9	< 25	< 100	10.1	45	9.8	< 250	91	84.4	<100	< 5000	< 2000	11500	1260
Dichloroethene, cis-1,2-			< 200	< 100	16.6	< 250	2.1	7.3	11.2	< 25	< 100	3.9	45.7	14.7	< 250	37.2	102	< 100	< 5000	< 2000	24.3	7.7
Dichloroethene, trans-1,2-			< 200	< 100	< 1	< 380	< 1	< 1	< 1	< 38	< 100	< 1	< 1	< 1	< 380	< 1	1.1	< 100	< 7500	< 2000	< 1	< 1
Dichloropropane, 1,2-			< 200	< 100	< 2	< 880	< 2	< 2	< 2	< 88	< 100	< 2	< 2	< 2	< 880	< 2	< 2	< 200	< 18000	< 2000	4.5	< 2
Dioxane, 1,4-			NT	NT	57700	NT	< 25	< 25 R	< 25	NT	NT	< 25	< 25 R	< 25	NT	< 25	< 25 R	< 2500	NT	NT	< 25	< 25
Ethylbenzene			< 200	< 100	< 1	< 250	< 1	< 1	< 1	< 25	< 100	< 1	< 1	< 1	< 250	< 1	< 1	180	< 5000	< 2000	2.8	4.4
Hexanone, 2-			< 2000	< 1000	5.3	< 2500	< 5	< 5	< 5	< 250	< 1000	< 5	< 5	< 5	< 2500	< 5	< 5	< 500	< 50000	< 20000	< 5	< 5
Isopropylbenzene			< 200	< 100	< 5	< 250	< 5	< 5	< 5	< 25	< 100	< 5	< 1	< 5	< 250	< 5	< 5	< 500	< 5000	< 2000	< 5	0.84 J
Methyl tert-butyl ether			< 200	< 100	< 1	< 500	< 1	0.71 J/T	< 1	< 50	< 100	< 1	8.7 T	1.4	< 500	5.1	8.2 T	< 100	< 10000	< 2000	< 1	< 1
Methylene chloride			< 2000	< 1000	12.2	< 2500	< 2	< 2	< 2	< 250	< 1000	< 2	< 2	< 2	< 2500	< 2	< 2	< 200	< 50000	< 20000	< 2	< 2
Naphthalene			< 200	< 500	< 5	< 1200	< 5	< 5	< 5	< 120	< 100	< 5	< 1	< 5	< 1200	< 5	< 5	392 J	< 5000	< 2000	< 5	2.4 J
Propylbenzene, n-			< 200	< 100	< 5	< 250	< 5	< 5	< 5	< 25	< 100	< 5	< 5	< 5	< 250	< 5	< 5	< 500	< 5000	< 2000	0.42 J	1.8 J
Tetrachloroethane, 1,1,1,2-			< 200	< 100	40.4	< 250	< 5	< 5	< 5	< 25	< 100	< 5	< 5	< 5	< 250	< 5	< 5	< 500	< 5000	< 2000	38.1	22.8
Tetrachloroethene			49700	19500	7240	21000	16200	28300	31700 F+	2000	7170	1730	7190	2880 F+	26000	16900	28300	29700	52000	24200	34400	74900
Tert-Amyl-Methyl-Ether			NT	NT	1.9 J	NT	NT	< 2	< 2	NT	NT	< 2	< 2	< 2	NT	< 2	< 2	< 200	NT	NT	< 2	< 2
Toluene			< 200	< 100	1.8	< 380	0.61 J	0.47 J	< 1	< 38	< 100	< 1	< 1	< 1	< 380	< 1	< 1	< 100	< 7500	< 2000	19.6	15.3
Trichloroethane, 1,1,1-			1150	2070	7610	< 250	34.5	69.7 T	31.4	660	1550	158	1330	360	1200	989	1680	806	290000	112000	255000	135000
Trichloroethane, 1,1,2-			< 200	< 100	172	< 380	< 1	< 1	< 1	< 38	< 100	< 1	< 1	< 1	< 380	< 1	< 1	< 100	< 7500	< 2000	85.8	16.2
Trichloroethene			906	1440	7580	< 500	141	317	141	190	572	92.8	486	171	870	482	1030	709	220000	128000	175000	120000
Trimethylbenzene, 1,2,4-			< 200	< 100	< 5	< 1200	< 5	< 5	< 5	< 120	< 100	< 5	< 5	< 5	< 1200	< 5	< 5	306 J	< 25000	< 2000	1.3 J	4.2 J
Trimethylbenzene, 1,3,5-			< 200	< 100	< 5	< 1200	< 5	< 5	< 5	< 120	< 100	< 5	< 5	< 5	< 1200	< 5	< 5	70.2 J	< 25000	< 2000	1.3 J	4.8 J
Vinyl chloride			< 200	< 100	< 1	< 500	< 1	< 1	< 1	< 50	< 100	< 1	< 1	< 1	< 500	< 1	< 1	< 100	< 10000	< 2000	< 1	1.2
Xylene, m,p-			< 400	< 200	< 1	< 250	< 1	< 1	< 1	< 25	< 200	< 1	< 1	< 1	< 250	< 1	< 1	484	< 5000	< 4000	4.8	5.9
Xylene, o-			< 200	< 100	< 1	< 250	< 1	< 1	< 1	< 25	< 100	< 1	< 1	< 1	< 250	< 1	< 1	< 100	< 5000	< 2000	9.2	13.8
Xylene, Total			< 400	< 200	< 1	< 250	< 1	< 1	< 1	< 25	< 200	< 1	< 1	< 1	< 250	< 1	< 1	543	< 5000	< 4000	14	19.7
Metals	SW846	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 10 255	NT	NT	NT	NT
Arsenic																						
Iron																						
Other			NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 10 < 10 < 10 208000	NT	NT	NT	NT
Methane	SW846																					
Ethane	SW846																					
Ethene	SW846																					
Alkalinity, Total as CaCO <sub>3</sub>	EPA 310.1																					
Chloride	EPA 325.3																					
Nitrogen, Nitrate	EPA 353.2																					
Nitrogen, Nitrate + Nitrite	EPA 353.2																					
Nitrogen, Nitrite	EPA 354.1																					
Sulfate	EPA 375.4																					
Sulfide	EPA 376.1																					
Surfactants, MBAS as LAS	EPA 425.1																					
Total Organic Carbon	EPA 415.1																					

- General Notes:**
- Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - "< " = The analyte was not detected at a concentration above the specified limit.
  - ft bgs = feet below ground surface.
  - ug/L = micrograms per liter.
  - FD = Field Duplicate Sample.
  - SHA = Sanborn Head & Associates.

- Qualifying Note:**
- J The reported result is below the laboratory reporting limit and is estimated.
  - T The reported value is estimated due to Continuing Calibration Check standard percent difference outside of control limits.
  - R The result is rejected due to gross excedence of minimum response factor criteria.
  - E The reported value is estimated; reported from undiluted sample run due to sample non-homogeneity.
  - F+ The result has a high bias due to matrix spike recovery above upper control limits.
  - F- The result has a low bias due to matrix spike recovery below lower control limits.





Table 15  
Summary of Testing Results - Groundwater Samples  
50 Tufts Street  
Somerville, MA

Sample Location: Well Screen Interval (ft bgs): Sample Date: Collected by:			MW-3				GEO-1					GEO-2				GEO-3					
			unknown				5-20					5-20				5-20					
			7/1/02 SHA	8/9/04 GeoInsight	5/23/06 GEI	1/17/07 GEI	8/16/04 GeoInsight	5/23/06 GEI	10/5/06 GEI	1/17/07 GEI	1/17/07 (FD) GEI	8/16/04 GeoInsight	5/23/06 GEI	10/5/06 GEI	1/17/07 GEI	8/16/04 GeoInsight	5/24/06 GEI	5/24/06(FD) GEI	10/4/06 GEI	10/4/06 (FD) GEI	1/16/07 GEI
Analyte	Method	Units																			
Volatile Organic Compounds (VOCs)			8260B	ug/L																	
Acetone			< 2500	< 2000	< 5	< 5	< 400	< 5	< 5	< 5	< 5	487	< 5	< 5	< 25	< 1000	< 5	< 5	< 5	< 5	< 5
Benzene			< 250	< 100	0.37 J	0.71	< 20	< 0.5	< 0.5	< 0.5	< 0.5	< 5	< 0.5	< 0.5	< 2.5	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform			< 250	< 100	< 1	< 1	< 20	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 5	< 50	< 1	< 1	< 1	< 1	< 1
Carbon tetrachloride			< 250	< 100	< 1	< 1	< 20	3.6	1.4	2.3	2.3	< 5	< 1	< 1	< 5	< 50	< 1	< 1	< 1	< 1	< 1
Carbon disulfide			< 2500	< 500	< 5	< 5	< 100	< 5	< 5	< 5	< 5	< 25	< 5	< 5	4.5 J	< 250	< 5	< 5	< 5	< 5	< 5
Chlorobenzene			< 250	< 100	< 1	0.52 J	< 20	0.76 J	0.86 J	0.76 J	0.84 J	< 5	< 1	< 1	< 5	< 50	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 500	< 200	< 2	< 2	< 40	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 10	< 100	< 2	< 2	< 2	< 2	< 2
Chloroform			< 380	< 100	2.1	3.4	< 20	< 1	< 1	0.60 J	0.61 J	< 5	< 1	< 1	< 5	< 50	< 1	< 1	< 1	< 1	< 1
Chloromethane			< 1200	< 200	< 2	< 2	< 40	< 2	3.7	< 2	1.8 J	< 10	< 2	< 2	< 10	< 100	< 2	< 2	< 2	< 2	< 2
Dichloroethane, 1,1-			< 380	< 100	< 1	< 1	< 20	4.3	2.9	5.4	5.6	< 5	2.2	2	< 25	< 50	< 1	< 1	11.6	11.6	2.6
Dichloroethane, 1,2-			< 250	< 100	< 1	< 1	< 20	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 5	< 50	< 1	< 1	< 1	< 1	< 1
Dichloroethene, 1,1-			< 250	< 100	6.9	5.6	39.8	989	1330 E	247	241	23.2	14.2	26.3	25.2	108	< 1	< 1	59.3	59.1	11.5
Dichloroethene, cis-1,2-			< 250	< 100	< 1	1.9	< 20	4.3	2.3	3.3	< 1	< 5	< 1	1.6	9	< 50	< 1	< 1	2.8	2.6	1.2
Dichloroethene, trans-1,2-			< 380	< 100	< 1	< 1	< 20	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 5	< 50	< 1	< 1	< 1	< 1	< 1
Dichloropropane, 1,2-			< 880	< 100	< 2	, 2	< 20	< 2	< 2	< 2	< 2	< 5	< 2	< 2	< 10	< 50	< 2	< 2	< 2	< 2	< 2
Dioxane, 1,4-			NT	NT	< 25	< 25	NT	< 25	< 25 R	< 25	< 25	NT	< 25	< 25 R	< 130	NT	< 25	< 25	< 25 R	< 25 R	< 25 R
Ethylbenzene			< 250	< 100	< 1	< 1	< 20	< 1	< 1	< 1	< 1	< 5	< 1	< 1	3.1 J	< 50	< 1	< 1	< 1	< 1	< 1
Hexanone, 2-			< 2500	< 1000	< 5	< 5	< 200	< 5	< 5	< 5	< 5	< 50	< 5	< 5	< 25	< 500	< 5	< 5	< 5	< 5	< 5
Isopropylbenzene			< 250	< 100	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 50	< 5	< 5	< 5	< 5	< 5
Methyl tert-butyl ether			< 500	< 100	< 1	< 1	< 20	64.2	5.3 T	2.5	2.7	37.6	79.9	12.8 T	9.8	< 50	< 1	< 1	1.2 T	1.1 T	< 1
Methylene chloride			< 2500	< 1000	< 2	< 2	< 200	< 2	< 2	< 2	< 2	< 50	< 2	< 2	< 10	< 500	< 2	< 5	< 5	< 5	< 5
Naphthalene			< 1200	< 100	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	< 5	8.3 J	< 50	< 5	< 5	< 5	< 5	< 5
Propylbenzene, n-			< 250	< 100	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 50	< 5	< 5	< 5	< 5	< 5
Tetrachloroethane, 1,1,1,2-			< 250	< 100	1.9 J	4.4 J	< 20	5.7	3 J	5.7	5.8	< 5	< 5	< 5	< 25	< 50	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene			16000	16200	22100	51900	1880	18600	19500	17300	18000	285	131	693	1420	4020	162	157	2720	2340	529
Tert-Amyl-Methyl-Ether			NT	NT	< 2	< 2	NT	< 2	< 2	< 2	< 2	NT	< 2	< 2	< 10	NT	< 2	< 2	< 2	< 2	< 2
Toluene			< 380	< 100	0.62 J	< 1	< 20	1.2	0.72 J	1.1	0.99	< 5	< 1	< 1	3.4 J	< 50	< 1	< 1	< 1	< 1	< 1
Trichloroethane, 1,1,1-			< 250	< 100	39.1	68.7	1720	19100	9620	13300	14200	490	125	376	867	204	4	4.4	78.2 T	77.2 T	16.2
Trichloroethane, 1,1,2-			< 380	< 100	< 1	< 1	< 20	< 1	< 1	0.94 J	0.99 J	< 5	< 1	< 1	< 5	< 50	< 1	< 1	< 1	< 1	< 1
Trichloroethene			< 250	< 100	86.6	247	898	10000	5530	9090	9660	60	27.3	170	602	9607	14.4	14.1	209	207	70.2
Trimethylbenzene, 1,2,4-			< 1200	< 100	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	< 5	4.7 J	< 50	< 5	< 5	< 5	< 5	< 5
Trimethylbenzene, 1,3,5-			< 1200	< 100	< 5	< 5	< 20	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 50	< 5	< 5	< 5	< 5	< 5
Vinyl chloride			< 500	< 100	< 1	< 1	< 20	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 5	< 50	< 1	< 1	< 1	< 1	< 1
Xylene, m,p-			< 250	< 200	< 1	< 1	< 40	< 1	< 1	< 1	< 1	< 10	< 1	< 1	11.2	< 100	< 1	< 1	< 1	< 1	< 1
Xylene, o-			< 250	< 100	< 1	< 1	< 20	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 5	< 50	< 1	< 1	< 1	< 1	< 1
Xylene, Total			< 250	< 200	< 1	< 1	< 40	< 1	< 1	< 1	< 1	< 10	< 1	< 1	14.2	< 100	< 1	< 1	< 1	< 1	< 1
Metals	SW846	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 10 < 100	NT	NT	NT	NT	NT	NT
Arsenic																					
Iron																					
Other		ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT		NT	NT	NT	NT	NT	NT
Methane	SW846														< 10						
Ethane	SW846														< 10						
Ethene	SW846														< 10						
Alkalinity, Total as CaCO3	EPA 310.1														104000						
Chloride	EPA 325.3														1310000						
Nitrogen, Nitrate	EPA 353.2														7000						
Nitrogen, Nitrate + Nitrite	EPA 353.2														7000						
Nitrogen, Nitrite	EPA 354.1														< 10						
Sulfate	EPA 375.4														88000						
Sulfide	EPA 376.1														< 2000						
Surfactants, MBAS as LAS	EPA 425.1														< 100						
Total Organic Carbon	EPA 415.1														< 1000						

- General Notes:**
1. Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  2. "< " = The analyte was not detected at a concentration above the specified limit.
  3. ft bgs = feet below ground surface.
  4. ug/L = micrograms per liter.
  5. FD = Field Duplicate Sample.
  6. SHA = Sanborn Head & Associates.

- Qualifying Note:**
- J The reported result is below the laboratory reporting limit and is estimated.
  - T The reported value is estimated due to Continuing Calibration Check standard percent difference outside of control limits.
  - R The result is rejected due to gross exceedence of minimum response factor criteria.
  - E The reported value is estimated; reported from undiluted sample run due to sample non-homogeneity.
  - F+ The result has a high bias due to matrix spike recovery above upper control limits.
  - F- The result has a low bias due to matrix spike recovery below lower control limits.





Table 15  
Summary of Testing Results - Groundwater Samples  
50 Tufts Street  
Somerville, MA

Sample Location: Well Screen Interval (ft bgs): Sample Date: Collected by:			GEO-4 4-19				GEO-5 5-20				GEO-6 5-20					MW101 9-19			MW102 6-16		
			8/16/04	5/24/06	10/4/06	1/16/07	8/16/04	5/24/06	10/4/06	1/16/07	8/16/04	5/24/06	10/4/06	1/16/07	1/16/07 (FD)	5/24/06	10/5/06	1/17/07	5/24/06	10/5/06	1/16/07
			Geolnsight	GEI	GEI	GEI	Geolnsight	GEI	GEI	GEI	Geolnsight	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	Method	Units																			
Volatile Organic Compounds (VOCs)			8260B	ug/L	< 2000	< 5	< 5	< 100	< 2000	< 5	< 5	< 250	< 200	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone			< 100	< 0.5	< 0.5	< 10	< 100	< 0.5	< 0.5	< 25	< 10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Benzene			< 200	< 1	< 1	< 20	< 100	< 1	< 1	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Bromoform			< 100	< 1	< 1	< 20	< 100	< 1	< 1	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Carbon tetrachloride			< 500	< 5	< 5	< 100	< 500	< 5	< 5	< 250	< 50	< 5	< 5	< 5	0.81 J	< 5	< 5	< 5	< 5	< 5	
Carbon disulfide			< 100	< 1	< 1	< 20	< 100	< 1	< 1	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Chlorobenzene			< 100	< 1	< 1	< 20	< 100	< 1	< 1	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Chloroethane			< 200	< 2	< 2	< 40	< 200	< 2	< 2	< 100	< 20	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Chloroform			< 100	< 1	2.5	< 20	< 100	< 1	0.62 J	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Chloromethane			< 200	< 2	< 2	< 40	< 200	< 2	< 2	< 100	< 20	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Dichloroethane, 1,1-			< 100	2.7	7.1	< 20	< 100	3	9.7	< 50	< 10	2	4.4	1.7	1.6	< 1	< 1	< 1	< 1	< 1	
Dichloroethane, 1,2-			< 100	< 1	< 1	< 20	< 100	< 1	< 1	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.88 J	< 1	
Dichloroethene, 1,1-			< 100	6.1	17.8	< 20	< 100	8.9	32.7	< 50	< 10	4.6	11	4.4	3.2	8.7	21.1	14.1	6.3	50.2	30
Dichloroethene, cis-1,2-			< 100	6.3	16.7	< 20	< 100	12.5	35.2	< 50	14.8	9.1	15.4	7.7	6.9	< 1	< 1	1.3	< 1	< 1	< 1
Dichloroethene, trans-1,2-			< 100	< 1	< 1	< 20	< 100	< 1	< 1	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Dichloropropane, 1,2-			< 100	< 2	< 2	< 40	< 100	< 2	< 2	< 100	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Dioxane, 1,4-			NT	< 25	< 25 R	< 500	NT	< 25	< 25 R	< 1300	NT	< 25	< 25 R	< 25	< 25	< 25	< 25 R	< 25	< 25	< 25 R	< 25
Ethylbenzene			< 100	< 1	< 1	< 20	< 100	< 1	< 1	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Hexanone, 2-			< 1000	< 5	< 5	< 100	< 1000	< 5	< 5	< 250	< 100	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Isopropylbenzene			< 100	< 5	< 5	< 100	< 100	< 5	< 5	< 250	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Methyl tert-butyl ether			< 100	< 1	1.5 T	< 20	< 100	1.3	3.3 T	< 50	< 10	1.3	1.9 T	1.2	1.2	< 1	< 1	< 1	< 1	< 1	
Methylene chloride			< 1000	< 2	< 2	< 40	< 1000	< 2	< 2	< 100	< 100	< 2	< 2	< 2	1.3	< 2	< 2	< 2	< 2	4.5 T	2.7
Naphthalene			< 100	< 5	< 5	< 100	< 100	< 5	< 5	< 250	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Propylbenzene, n-			< 100	< 5	< 5	< 100	< 100	< 5	< 5	< 250	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Tetrachloroethane, 1,1,1,2-			< 100	< 5	0.84 J	< 100	< 100	< 5	< 5	< 250	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Tetrachloroethene			12900	6690	24100	16700	14400	2440	12900	254 F+	782	675	1980	632	594 F+	163	171	192	200	898	692
Tert-Amyl-Methyl-Ether			NT	< 2	< 2	< 40	NT	< 2	< 2	< 100	NT	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Toluene			< 100	< 1	< 1	< 20	< 100	< 1	< 1	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Trichloroethane, 1,1,1-			1170	113	321 T	113	646	246	652	< 50	27.8	42.5	77.2 T	33.7	25.3	110	146	131	< 1	65.7 T	32.6
Trichloroethane, 1,1,2-			< 100	< 1	< 1	< 20	< 100	< 1	< 1	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Trichloroethene			720	86.8	235	129	404	146	446	< 50	122	78.8	131	75.3	56.5	50.5	30.2	38.4	15.6	89.1	57
Trimethylbenzene, 1,2,4-			< 100	< 5	< 5	< 100	< 100	< 5	< 5	< 250	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Trimethylbenzene, 1,3,5-			< 100	< 5	< 5	< 100	< 100	< 5	< 5	< 250	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Vinyl chloride			< 100	< 1	< 1	< 20	< 100	< 1	< 1	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Xylene, m,p-			< 200	< 1	< 1	< 20	< 200	< 1	< 1	< 50	< 20	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Xylene, o-			< 100	< 1	< 1	< 20	< 100	< 1	< 1	< 50	< 10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Xylene, Total			< 200	< 1	< 1	< 20	< 200	< 1	< 1	< 50	< 20	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Metals			SW846	ug/L	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 10	< 10	NT	NT	NT	NT	NT	NT
Arsenic														< 100	< 100						
Iron																					
Other					ug/L	NT	NT	NT	NT	NT	NT	NT	NT	< 10	< 10	NT	NT		NT	NT	NT
Methane	SW846													< 10	< 10						
Ethane	SW846													< 10	< 10						
Ethene	SW846													< 10	< 10						
Alkalinity, Total as CaCO <sub>3</sub>	EPA 310.1													134000	133000						
Chloride	EPA 325.3													825000	825000						
Nitrogen, Nitrate	EPA 353.2													3500	3500						
Nitrogen, Nitrate + Nitrite	EPA 353.2													3500	3500						
Nitrogen, Nitrite	EPA 354.1													< 10	< 10						
Sulfate	EPA 375.4													45800	45500						
Sulfide	EPA 376.1													< 2000	< 2000						
Surfactants, MBAS as LAS	EPA 425.1													< 100	< 100						
Total Organic Carbon	EPA 415.1													< 1000	< 1000						

- General Notes:**
- Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - "< " = The analyte was not detected at a concentration above the specified limit.
  - ft bgs = feet below ground surface.
  - ug/L = micrograms per liter.
  - FD = Field Duplicate Sample.
  - SHA = Sanborn Head & Associates.

- Qualifying Note:**
- J The reported result is below the laboratory reporting limit and is estimated.
  - T The reported value is estimated due to Continuing Calibration Check standard percent difference outside of control limits.
  - R The result is rejected due to gross exceedence of minimum response factor criteria.
  - E The reported value is estimated; reported from undiluted sample run due to sample non-homogeneity.
  - F+ The result has a high bias due to matrix spike recovery above upper control limits.
  - F- The result has a low bias due to matrix spike recovery below lower control limits.





Table 15  
Summary of Testing Results - Groundwater Samples  
50 Tufts Street  
Somerville, MA

Sample Location: Well Screen Interval (ft bgs): Sample Date: Collected by:			MW103 6-16					MW104 5-15			MW105 19-29			MW106 9-19	MW107 2-12	MW108 2-12	MW109 3-13	MW110 3-13	MW111 4-14	MW113 10-20	MW114 7-17
			5/24/06 GEI	8/7/06 GEI	10/5/06 GEI	1/16/07 GEI	1/18/07 GEI	5/23/06 GEI	10/5/06 GEI	1/16/07 GEI	5/24/06 GEI	10/5/06 GEI	1/17/07 GEI	1/18/07 GEI	1/18/07 GEI	1/18/07 GEI	1/18/07 GEI	1/18/07 GEI	1/18/07 GEI	2/20/07 GEI	2/20/07 GEI
Analyte	Method	Units																			
Volatile Organic Compounds (VOCs)																					
Acetone	8260B	ug/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 50	< 5	< 5
Benzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 50	< 0.5	< 5
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Carbon tetrachloride			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Carbon disulfide			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 50	< 5	< 5
Chlorobenzene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Chloroethane			< 2	< 2	< 2	< 2	< 2	< 2	10.3	6.1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 20	< 2	< 2
Chloroform			< 1	< 1	< 1	0.65 J	0.62 J	< 1	< 1	< 1	< 1	< 1	< 1	1.1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Chloromethane			< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 20	< 2	< 2
Dichloroethane, 1,1-			27.2	3.7	13	11.5	10.1	33	98.9	57.1	< 1	< 1	< 1	< 1	4.6	< 1	1.2	< 1	30.9	< 1	< 1
Dichloroethane, 1,2-			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Dichloroethene, 1,1-			13.4	2	6.5	4.3	4.3	3.3	9.4	2.9	< 1	< 1	< 1	4.4	3.2	< 1	< 1	< 1	17.6	< 1	< 1
Dichloroethene, cis-1,2-			< 1	3	2.5	< 1	< 1	198	435	244	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	22.6	< 1	< 1
Dichloroethene, trans-1,2-			< 1	< 1	< 1	< 1	< 1	2.2	9.3	6.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Dichloropropane, 1,2-			< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 20	< 2	< 2
Dioxane, 1,4-			< 25	< 25	< 25 R	< 25	< 25	< 25	< 25 R	< 25	< 25	< 25 R	< 25	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25
Ethylbenzene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Hexanone, 2-			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 50	< 5	< 5
Isopropylbenzene			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 50	< 5	< 5
Methyl tert-butyl ether			< 1	< 1	0.65 J/T	< 1	< 1	< 1	10 T	1	< 1	< 1	< 1	12.2	< 1	< 1	3.5	< 1	< 10	< 1	< 1
Methylene chloride			< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 20	< 2	< 2
Naphthalene			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 50	< 5	< 5
Propylbenzene, n-			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 50	< 5	< 5
Tetrachloroethane, 1,1,1,2-			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 50	< 5	< 5
Tetrachloroethene			2600	592	1510	1200 F+	1250 F-	60.4	160	29.3	7.8	0.69 J	0.67 J	1 F-	< 1	< 1	178 F-	0.89 J/F-	13700 F-	< 1	< 1
Tert-Amyl-Methyl-Ether			< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 20	< 2	< 2
Toluene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	0.44 J	0.34 J
Trichloroethane, 1,1,1-			34	4.4	14.4 T	17.6	21	21	138	23.2	< 1	< 1	< 1	15.3	< 1	< 1	0.77 J	< 1	142	< 1	< 1
Trichloroethane, 1,1,2-			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Trichloroethene			109	24	60.4	37	38	63.4	110	49.1	< 1	3.4	3.2	3.7	< 1	< 1	4.5	< 1	150	< 1	< 1
Trimethylbenzene, 1,2,4-			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 50	< 5	< 5
Trimethylbenzene, 1,3,5-			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 50	< 5	< 5
Vinyl chloride			< 1	< 1	< 1	< 1	< 1	23.7	36.4	47.4	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Xylene, m,p-			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Xylene, o-			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Xylene, Total			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 1
Metals	SW846	ug/L	NT	NT	NT	NT	< 10	NT	NT	NT	NT	NT		< 10	< 10	< 10	NT	2.9	NT	NT	NT
Arsenic							< 100							319	6160	< 10		84000			
Iron																					
Other		ug/L	NT	NT	NT	NT		NT	NT	NT	NT	NT					NT		NT	NT	NT
Methane	SW846						< 10							< 10	4.13 J	0.18		< 10			
Ethane	SW846						< 10							< 10	< 10	< 10		< 10			
Ethene	SW846						< 10							< 10	< 10	< 10		< 10			
Alkalinity, Total as CaCO <sub>3</sub>	EPA 310.1						53500							83100	174000	71100		122000			
Chloride	EPA 325.3						675000							1870000	100000	235000		142000			
Nitrogen, Nitrate	EPA 353.2						8900							12800	< 110	< 110		2300			
Nitrogen, Nitrate + Nitrite	EPA 353.2						8900							12900	100	< 100		2400			
Nitrogen, Nitrite	EPA 354.1						16							83	< 10	< 10		54			
Sulfate	EPA 375.4						65700							86800	33400	28100		47700			
Sulfide	EPA 376.1						< 2000							< 2000	< 2000	< 2000		< 2000			
Surfactants, MBAS as LAS	EPA 425.1						< 100							< 100	150	< 100		< 100			
Total Organic Carbon	EPA 415.1						1700							1300	12200	1300		5700			

- General Notes:**
- Analytes detected in at least one sample are reported here. For a complete list of analytes see the laboratory data sheets.
  - "< " = The analyte was not detected at a concentration above the specified limit.
  - ft bgs = feet below ground surface.
  - ug/L = micrograms per liter.
  - FD = Field Duplicate Sample.
  - SHA = Sanborn Head & Associates.

- Qualifying Note:**
- J The reported result is below the laboratory reporting limit and is estimated.
  - T The reported value is estimated due to Continuing Calibration Check standard percent difference outside of control limits.
  - R The result is rejected due to gross exceedence of minimum response factor criteria.
  - E The reported value is estimated; reported from undiluted sample run due to sample non-homogeneity.
  - F+ The result has a high bias due to matrix spike recovery above upper control limits.
  - F- The result has a low bias due to matrix spike recovery below lower control limits.





Table 16  
Field Testing Parameters- Groundwater Samples  
50 Tufts Street  
Somerville, MA

Sample Location: Well Screen Interval (ft bgs): Sample Date: Collected by:			SH-MW1 10-30 1/16/06 GEI	SH-MW2 10-25 1/16/06 GEI	SH-MW3 10-24 1/17/06 GEI	GEO-1 5-20 1/17/07 GEI1/17/07 (FD) GEI		GEO-2 5-20 1/17/07 GEI	GEO-3 5-20 1/16/07 GEI	GEO-4 4-19 1/16/07 GEI	GEO-5 5-20 1/16/07 GEI	GEO-6 5-20 1/16/07 GEI1/16/07 (FD) GEI	
Analyte	Method	Units											
Field Parameters													
Conductivity	Probe	mS/cm	0.559	0.751	1.432	0.640	0.640	2.519	5.277	2.835	1.315	2.273	2.273
Dissolved Oxygen	Probe	ug/L	5600	5980	1070	5820	5820	2080	1890	5640	9280	1550	1550
Oxidation/Reduction Potential (ORP)	Probe	mV	74.4	84.8	43.3	204.9	204.9	242.9	118.4	214.2	96.6	53.3	53.3
pH	Probe	su	6.43	6.51	6.91	6.79	6.79	6.39	6.28	6.50	6.25	6.18	6.18
Temperature	Probe	°C	12.42	13.05	11.70	10.69	10.69	9.44	11.50	12.60	11.26	13.68	13.68
Iron II	Hach Kit	ug/L	0	50	100	20	20	10	870	0	30	20	20

- General Notes:**
- 1. ft bgs = feet below ground surface.
  - 2. mS/cm = microsiemens per centimeter.
  - 3. mV = milivolts.
  - 4. su = standard units.
  - 5. ug/L = micrograms per liter.
  - 6. FD = Field Duplicate Sample.



**Table 16**  
**Field Testing Parameters- Groundwater Samples**  
 50 Tufts Street  
 Somerville, MA

Sample Location:			MW101	MW102	MW103		MW104	MW106	MW107	MW108	MW110
Well Screen Interval (ft bgs):			9-19	6-16	6-16		5-16	9-19	2-12	2-12	3-13
Sample Date:			1/17/07	1/16/07	1/16/07	1/18/07	1/16/07	1/18/07	1/18/07	1/18/07	1/18/07
Collected by:			GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI	GEI
Analyte	Method	Units									
<b>Field Parameters</b>											
Conductivity	Probe	mS/cm	1.476	1.915	1.609	1.746	0.682	5.671	0.428	0.865	0.436
Dissolved Oxygen	Probe	ug/L	4650	3170	2350	3190	680	4.02	1.79	3.42	4220
Oxidation/Reduction Potential (ORP)	Probe	mV	86.2	235.9	255.7	254.2	-65.7	78.8	107.1	82.7	111
pH	Probe	su	6.18	6.35	6.04	6.03	6.91	6.07	6.73	6.35	7.27
Temperature	Probe	°C	10.99	11.00	11.85	12.87	8.18	12.29	9.12	8.57	9.03
Iron II	Hach Kit	ug/L	90	0	10	90	1530	20	210	220	770

- General Notes:**
1. ft bgs = feet below ground surface.
  2. mS/cm = microsiemens per centimeter.
  3. mV = milivolts.
  4. su = standard units.
  5. ug/L = micrograms per liter.
  6. FD = Field Duplicate Sample.







Geotechnical  
Environmental and  
Water Resources  
Engineering









0 1000 2000 4000 6000  
SCALE, FEET



This Image provided by MassGIS is taken from  
U.S.G.S. Topographic 7.5 X 15 Minute Series  
Boston North, MA Quadrangle, 1985.  
Datum is National Geodetic Vertical Datum (NGVD).  
Contour Interval is 3 Meters.

IRA Status Report No. 3  
50 Tufts Street  
Somerville, Massachusetts  
UniFirst Corporation  
Wilmington, Massachusetts



Project 04516-2

SITE LOCATION MAP

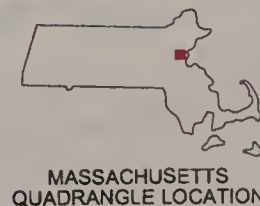
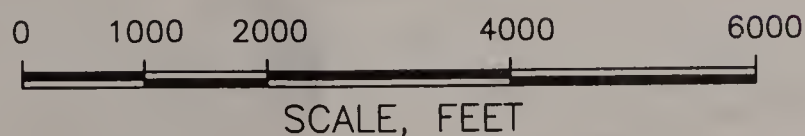
May 2007

Fig. 1









This Image provided by MassGIS is taken from  
 U.S.G.S. Topographic 7.5 X 15 Minute Series  
 Boston North, MA Quadrangle, 1985.  
 Datum is National Geodetic Vertical Datum (NGVD).  
 Contour Interval is 3 Meters.

IRA Status Report No. 3  
 50 Tufts Street  
 Somerville, Massachusetts

UniFirst Corporation  
 Wilmington, Massachusetts



Project 04516-2

SITE LOCATION MAP

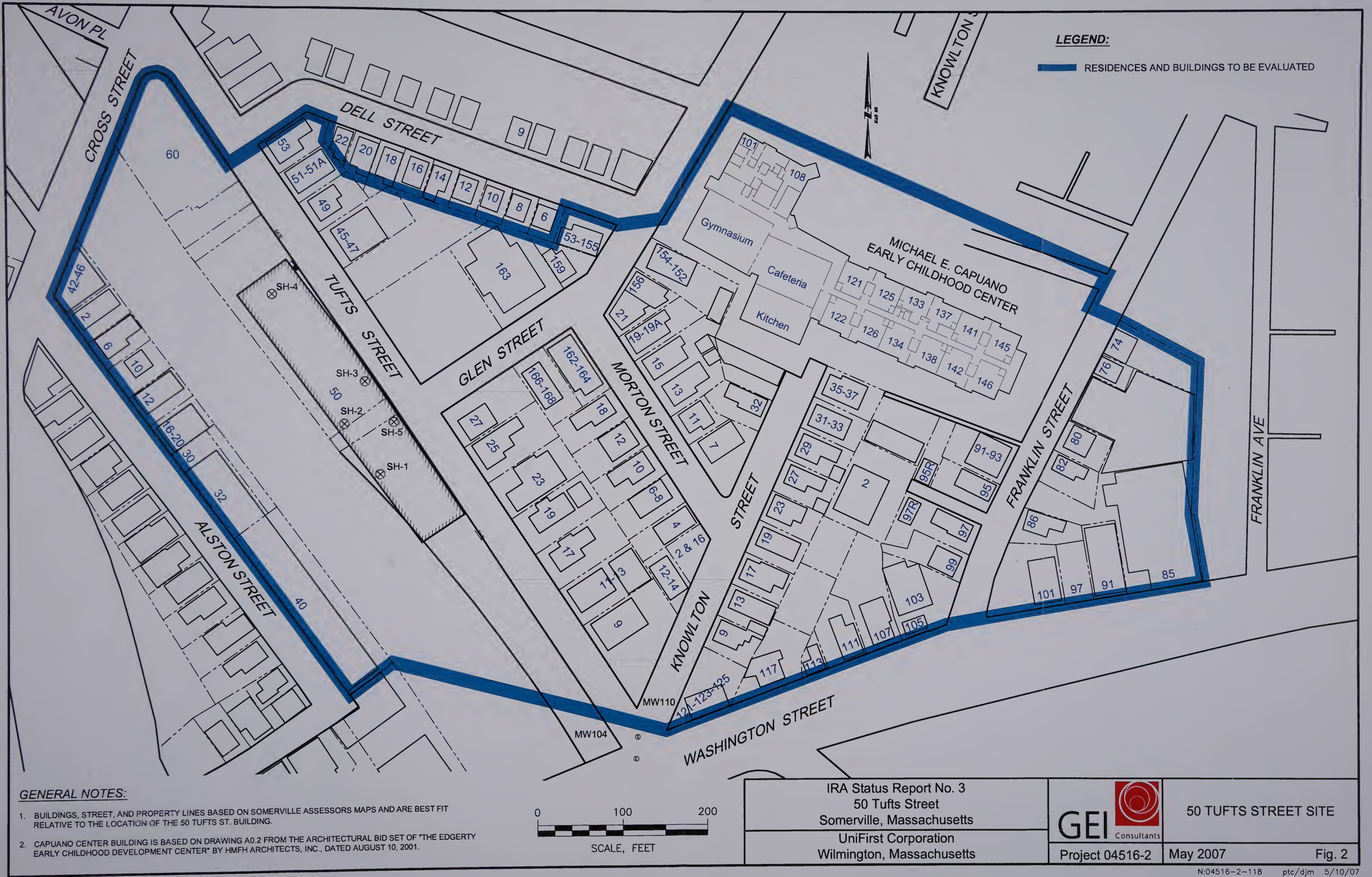
May 2007

Fig. 1













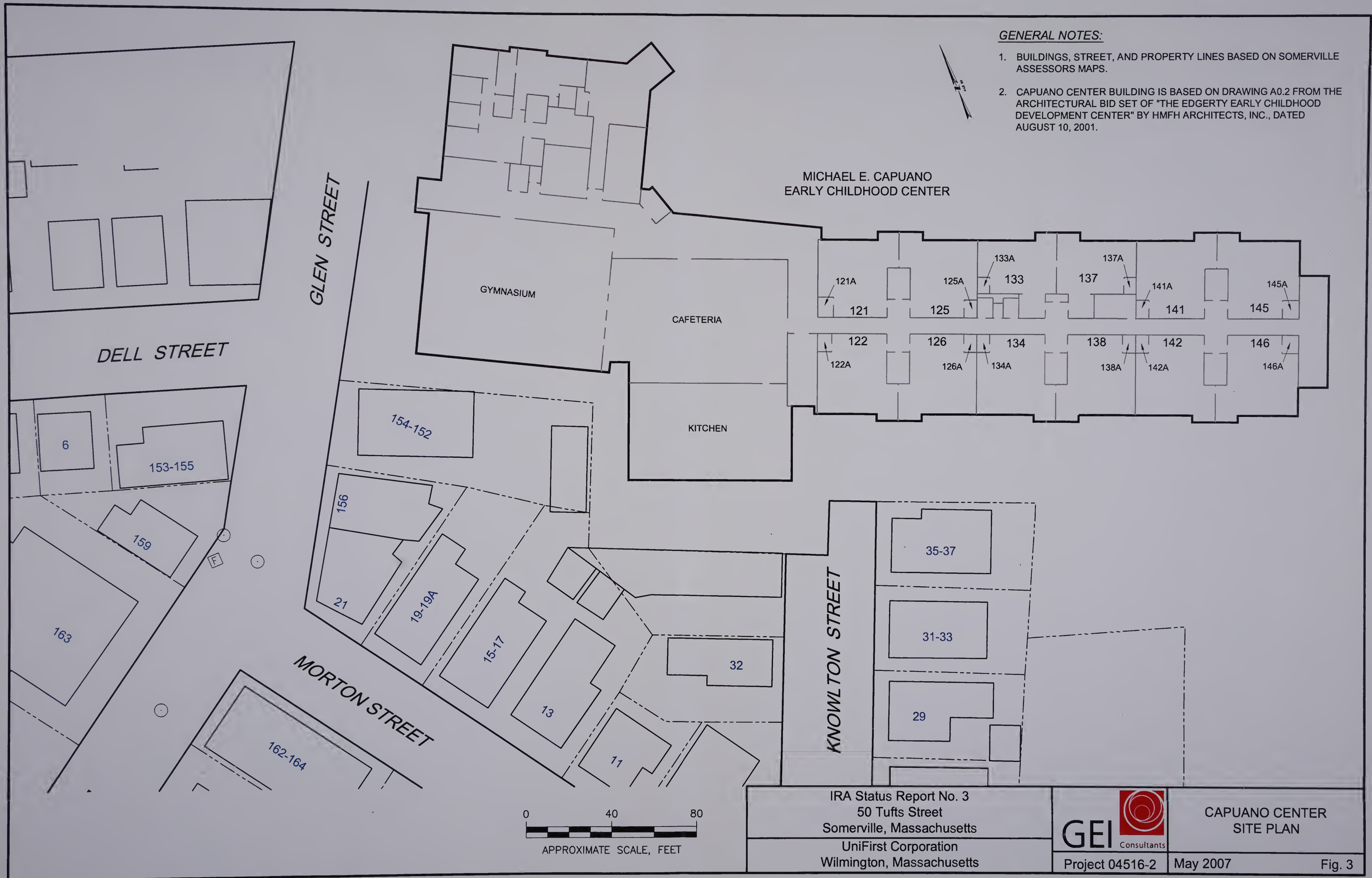


**GENERAL NOTES:**

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.



**MICHAEL E. CAPUANO  
EARLY CHILDHOOD CENTER**



IRA Status Report No. 3  
50 Tufts Street  
Somerville, Massachusetts  
UniFirst Corporation  
Wilmington, Massachusetts



Project 04516-2

**CAPUANO CENTER  
SITE PLAN**

May 2007

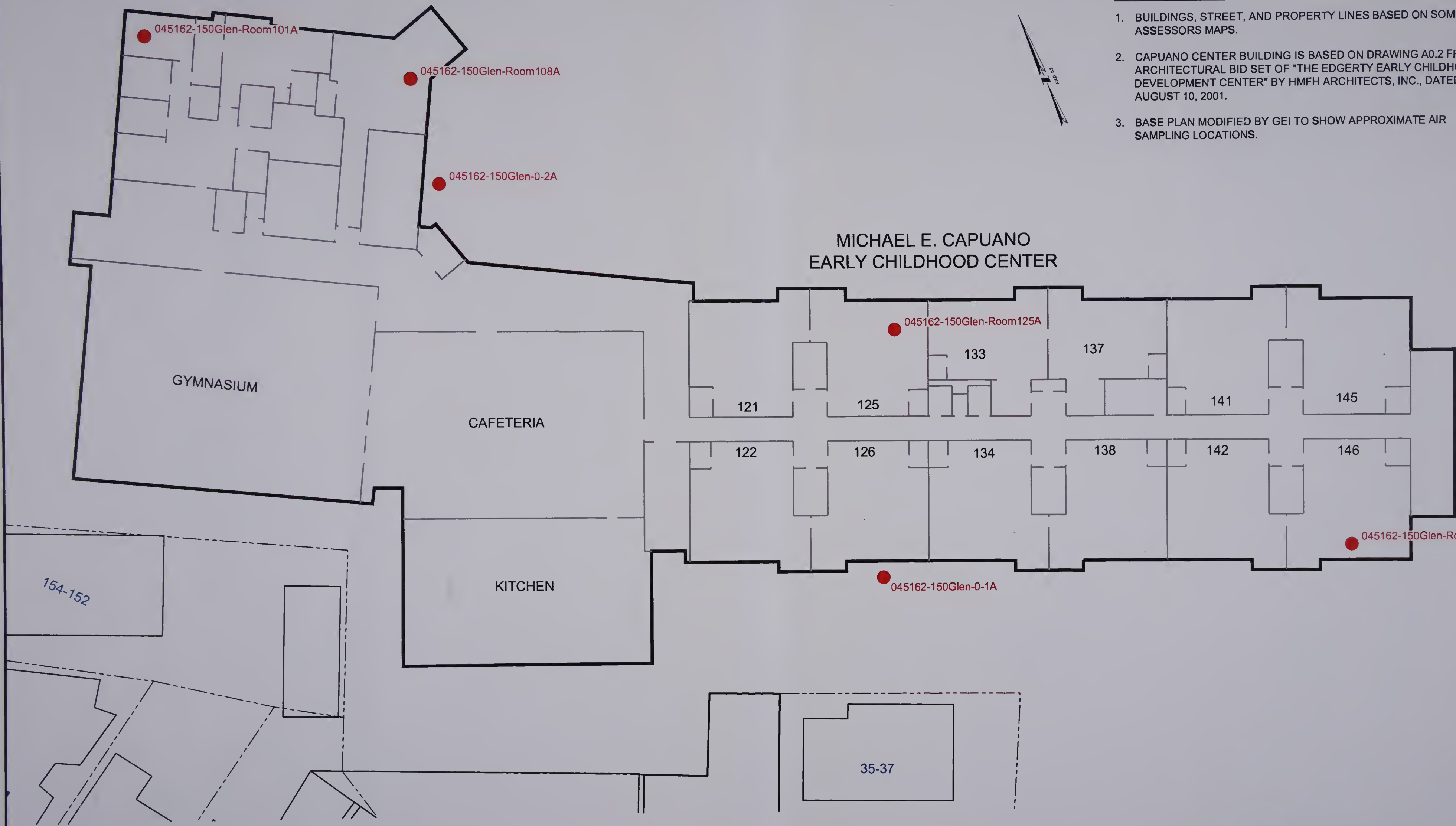
Fig. 3



GENERAL NOTES:

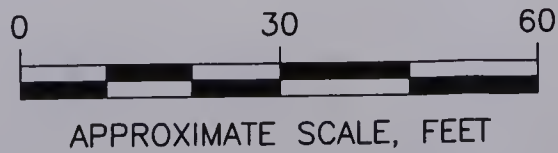
- 1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
- 2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
- 3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.

MICHAEL E. CAPUANO  
EARLY CHILDHOOD CENTER



LEGEND:

- 4-HOUR SUMMA CANISTER SAMPLE
- 138 ROOM NUMBER AT CAPUANO SCHOOL




IRA Status Report No. 3 50 Tufts Street Somerville, Massachusetts UniFirst Corporation Wilmington, Massachusetts	 GEI Consultants	INDOOR AIR SAMPLING LOCATIONS 12/27/06	
		Project 04516-2	May 2007

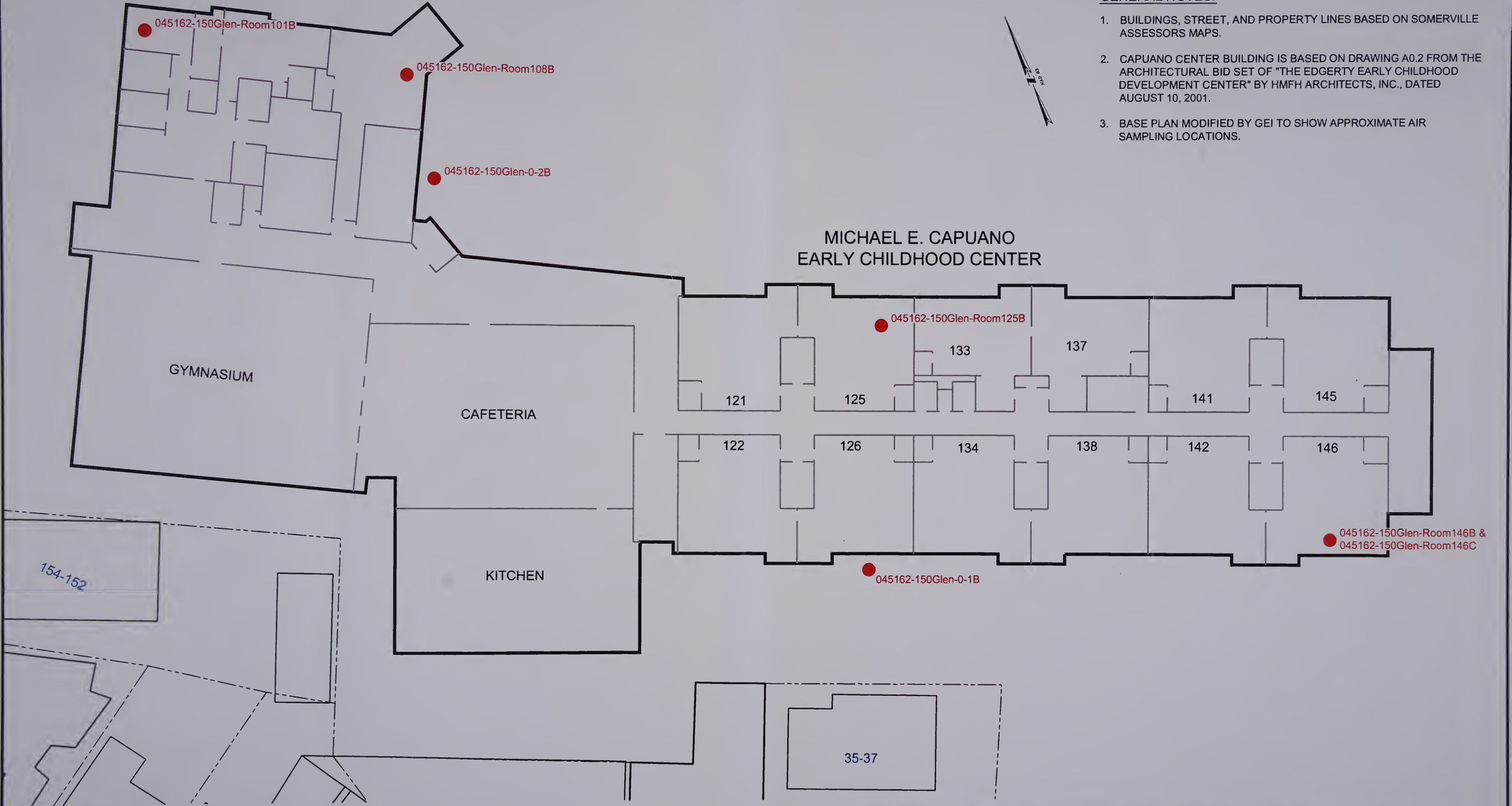
Fig. 4







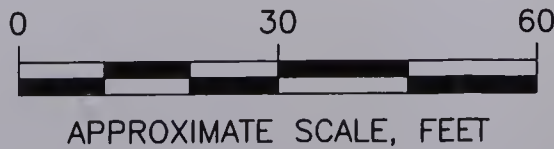
- GENERAL NOTES:**
- 1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
  - 2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
  - 3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.



**LEGEND:**

● 4-HOUR SUMMA CANISTER SAMPLE

138 ROOM NUMBER AT CAPUANO SCHOOL




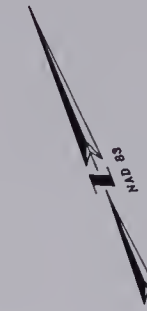
IRA Status Report No. 3 50 Tufts Street Somerville, Massachusetts UniFirst Corporation Wilmington, Massachusetts	 <b>GEI</b> Consultants	INDOOR AIR SAMPLING LOCATIONS <b>12/28/06</b>	
		Project 04516-2	May 2007

Fig. 5

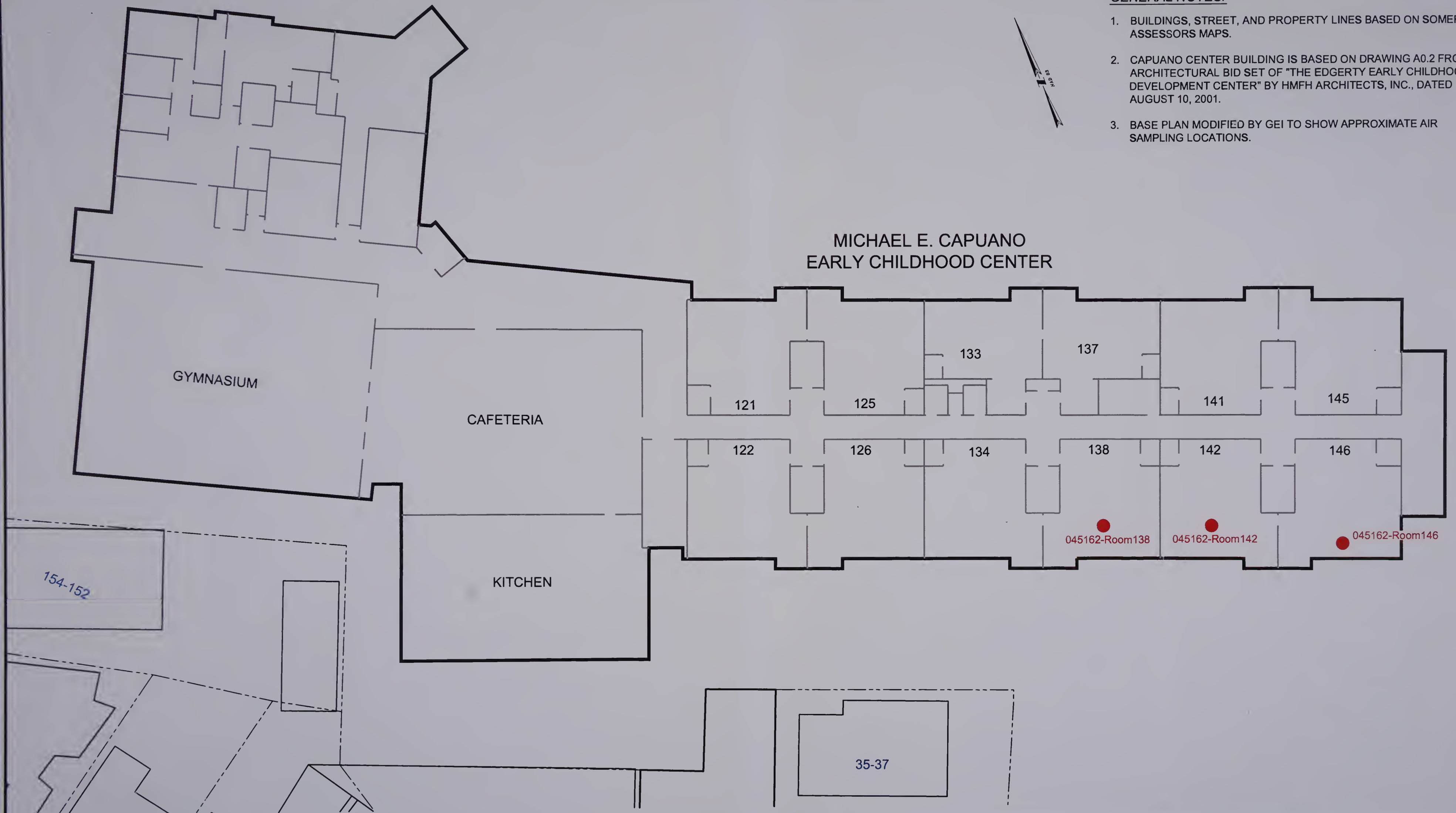


**GENERAL NOTES:**

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.

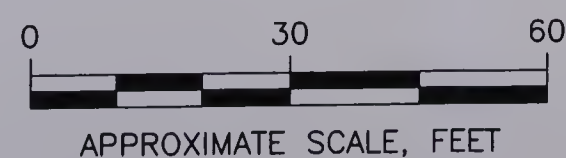


**MICHAEL E. CAPUANO  
EARLY CHILDHOOD CENTER**



**LEGEND:**

- 4-HOUR SUMMA CANISTER SAMPLE
- 138 ROOM NUMBER AT CAPUANO SCHOOL



IRA Status Report No. 3  
50 Tufts Street  
Somerville, Massachusetts  
UniFirst Corporation  
Wilmington, Massachusetts

**GEI** Consultants  
Project 04516-2

**INDOOR AIR SAMPLING  
LOCATIONS  
1/2/07**

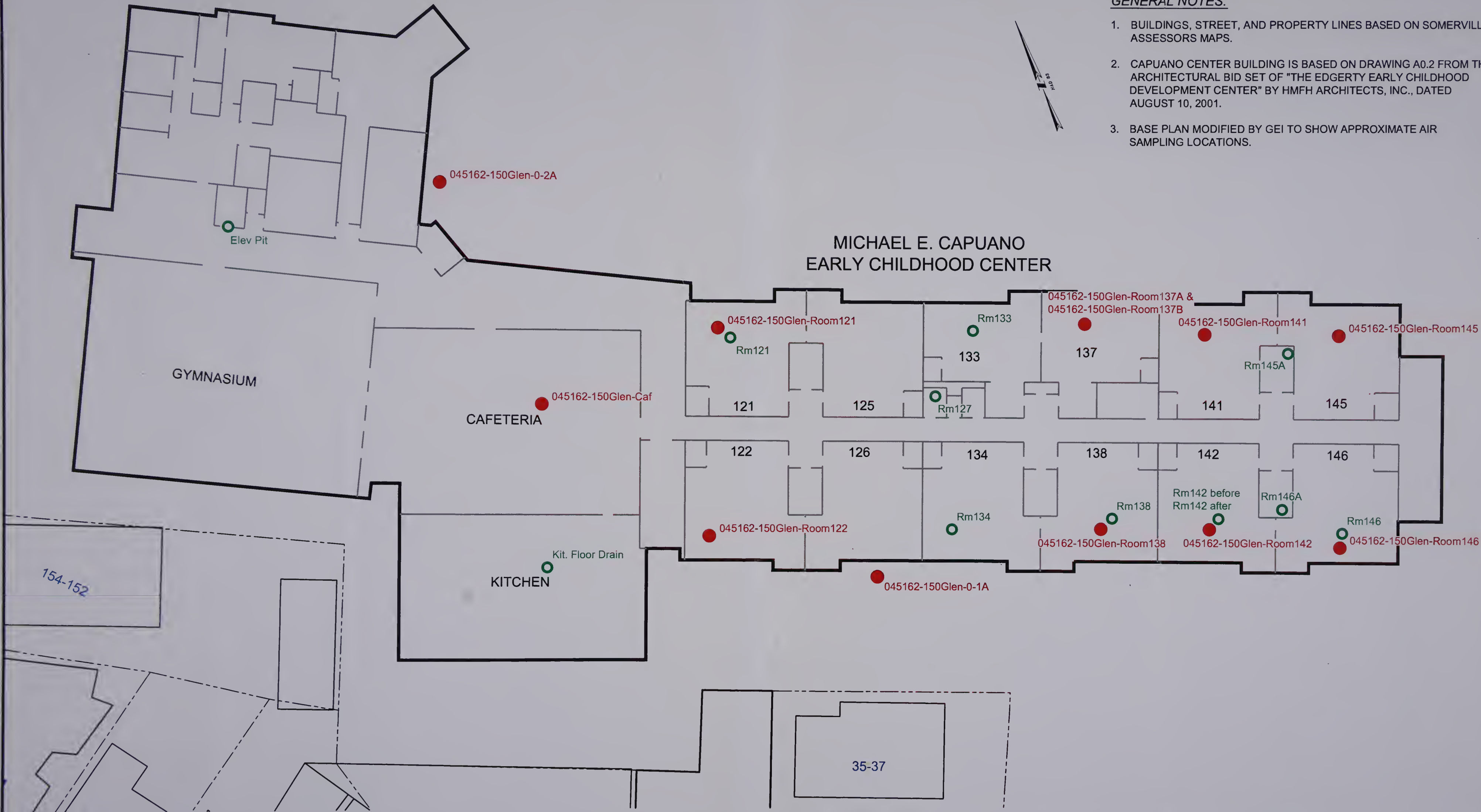
May 2007 Fig. 6



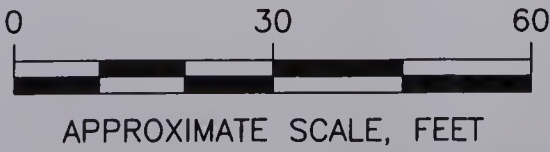





- GENERAL NOTES:**
1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
  2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
  3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.



- LEGEND:**
- 4-HOUR SUMMA CANISTER SAMPLE
  - GC TEDLAR BAG GRAB SAMPLE
  - 138 ROOM NUMBER AT CAPUANO SCHOOL



IRA Status Report No. 3 50 Tufts Street Somerville, Massachusetts		INDOOR AIR SAMPLING LOCATIONS <i>1/6/07</i>	
UniFirst Corporation Wilmington, Massachusetts		Project 04516-2	May 2007
		Fig. 7	





GENERAL NOTES:

- 1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
- 2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
- 3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.

MICHAEL E. CAPUANO  
EARLY CHILDHOOD CENTER

GYMNASIUM

CAFETERIA

KITCHEN

121

125

133

137

141

145

122

126

134

138

142

146

045162-150Glen-Room126 &  
045162-150Glen-Room100

045162-150Glen-Room136

045162-150Glen-Room144  
(with Alpha duplicate)

045162-150Glen-Room134

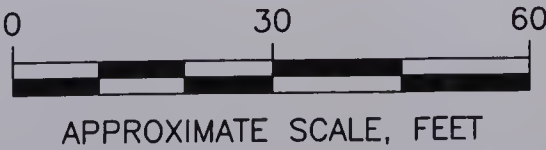
045162-150Glen-Room138  
(with Alpha duplicate)

154-152

35-37

LEGEND:

- 4-HOUR SUMMA CANISTER SAMPLE
- 138 ROOM NUMBER AT CAPUANO SCHOOL



IRA Status Report No. 3  
50 Tufts Street  
Somerville, Massachusetts

UniFirst Corporation  
Wilmington, Massachusetts



Project 04516-2

INDOOR AIR SAMPLING  
LOCATIONS  
1/13/07

May 2007

Fig. 8





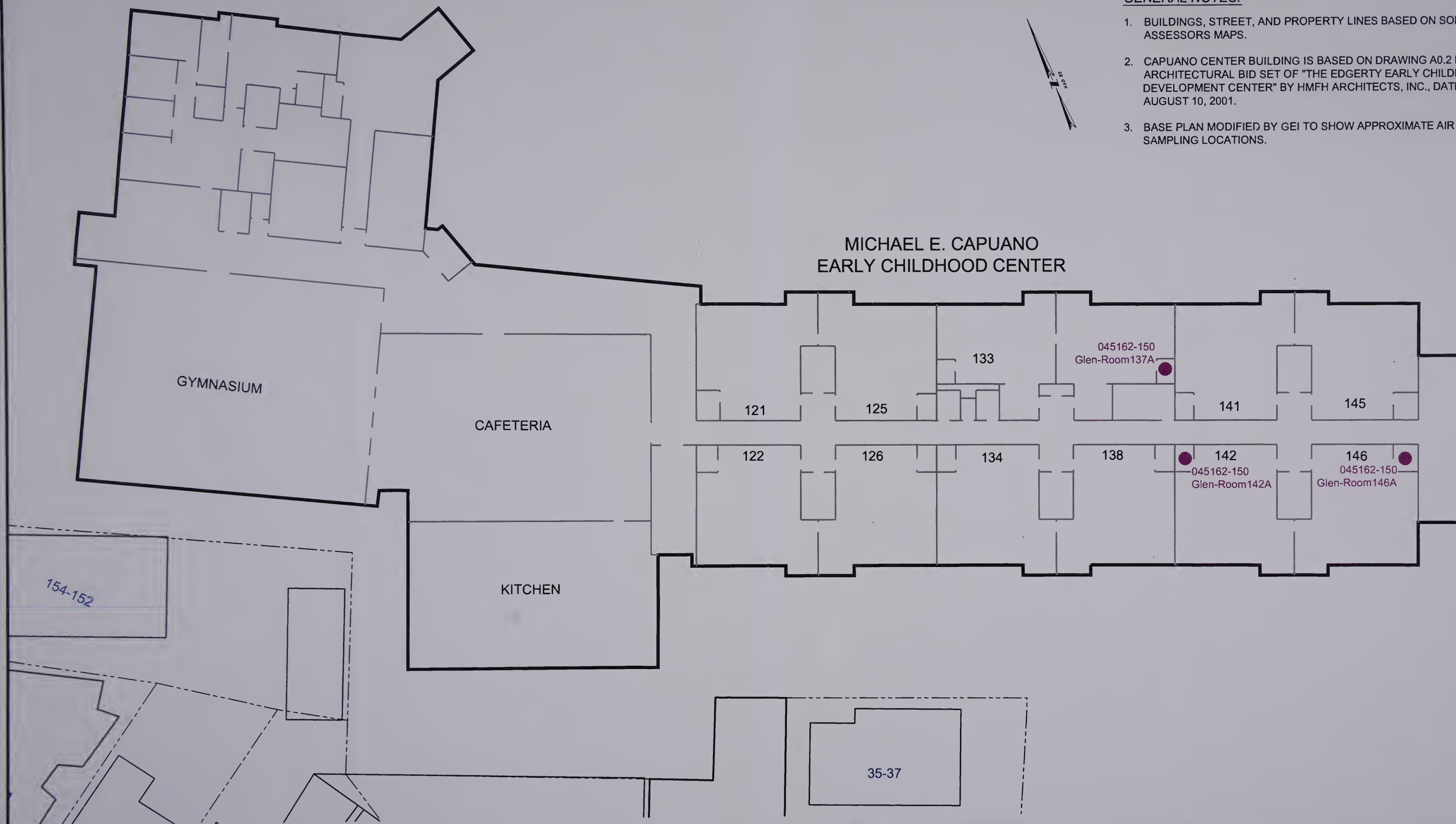




# **GENERAL NOTES:**

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.

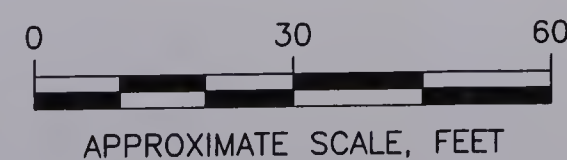
## **MICHAEL E. CAPUANO EARLY CHILDHOOD CENTER**



### **LEGEND:**

- SUB-SLAB SOIL VAPOR SAMPLE (1-HOUR SUMMA CANISTER)  
JANUARY 31, 2007

138 ROOM NUMBER AT CAPUANO SCHOOL



IRA Status Report No. 3  
50 Tufts Street  
Somerville, Massachusetts

UniFirst Corporation  
Wilmington, Massachusetts



Project 04516-2

SUB-SLAB SOIL VAPOR  
SAMPLING LOCATIONS  
1/31/07

May 2007

Fig. 9





# GENERAL NOTES:

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.

## MICHAEL E. CAPUANO EARLY CHILDHOOD CENTER

GYMNASIUM

CAFETERIA

KITCHEN

121

125

133

045162-150  
Glen-Room137A

141

145

045162-150Glen-Roof

122

045162-150  
Glen-Rm122

126

045162-150  
Glen-Rm126

134

045162-150  
Glen-Rm134

138

045162-150  
Glen-Rm138  
and 045162-150  
Glen-Rm139 (Field Duplicate)

142

045162-150  
Glen-Room142A  
045162-150  
Glen-Rm142

146

045162-150  
Glen-Room146A  
045162-150  
Glen-Rm146

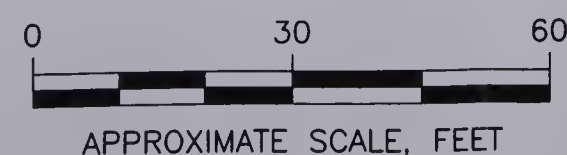
045162-150  
Glen-Effluent

35-37

154-152

### LEGEND:

- SUB-SLAB SAMPLE (1-HOUR SUMMA CANISTER) FEBRUARY 8, 2007
- INDOOR AIR SAMPLE (4-HOUR SUMMA CANISTER) FEBRUARY 7, 2007
- OUTDOOR AIR SAMPLE (1-HOUR SUMMA CANISTER) FEBRUARY 8, 2007
- 138 ROOM NUMBER AT CAPUANO SCHOOL



IRA Status Report No. 3  
50 Tufts Street  
Somerville, Massachusetts

UniFirst Corporation  
Wilmington, Massachusetts



Project 04516-2

INDOOR AIR SAMPLING  
LOCATIONS  
2/7/07 & 2/8/07

May 2007

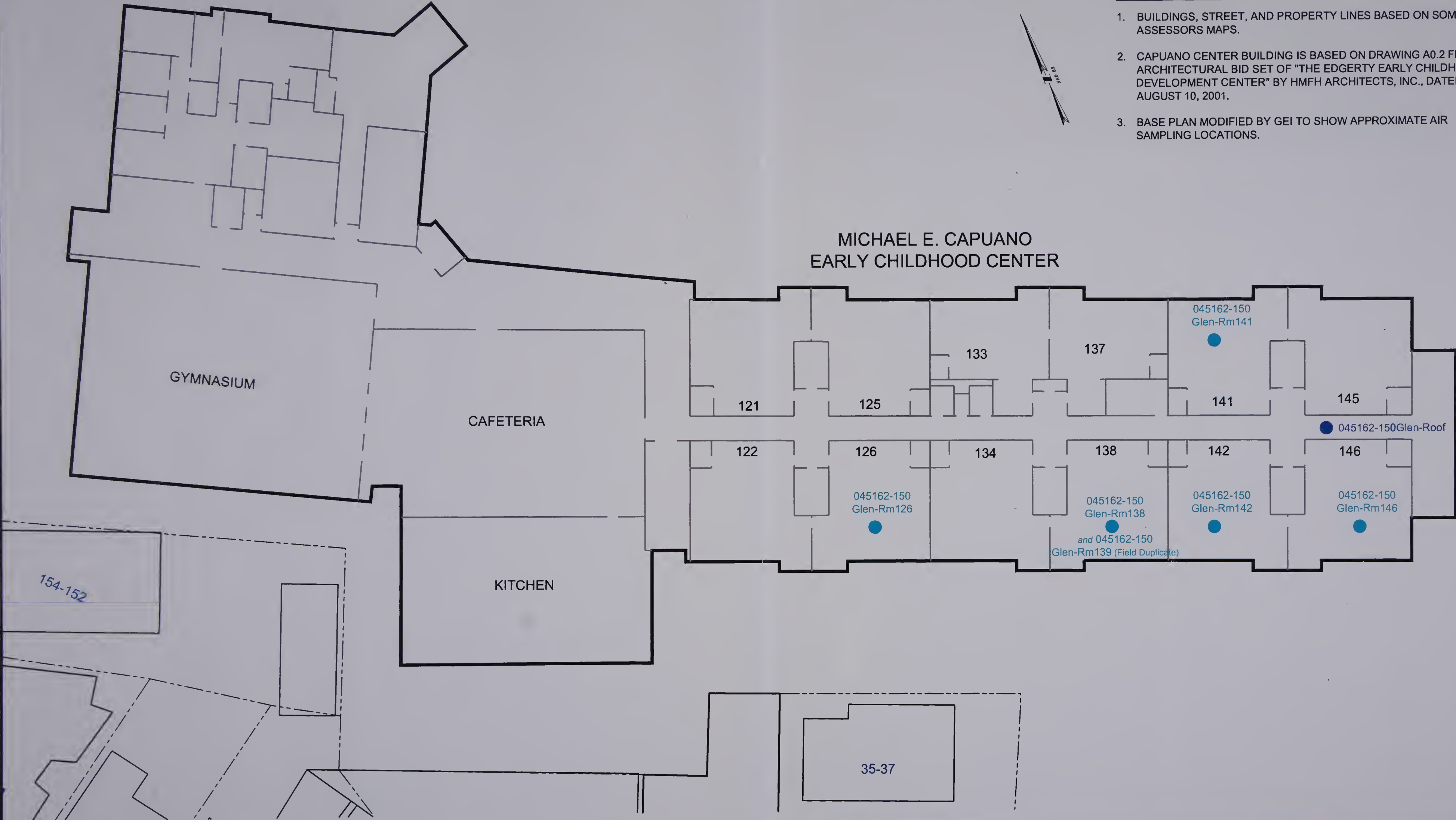
Fig. 10



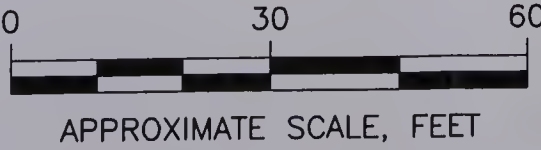


- GENERAL NOTES:**
- 1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
  - 2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
  - 3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.

MICHAEL E. CAPUANO  
EARLY CHILDHOOD CENTER



- LEGEND:**
- INDOOR AIR SAMPLE (4-HOUR SUMMA CANISTER) MARCH 8, 2007
  - OUTDOOR AIR SAMPLE (4-HOUR SUMMA CANISTER) MARCH 8, 2007
  - 138 ROOM NUMBER AT CAPUANO SCHOOL



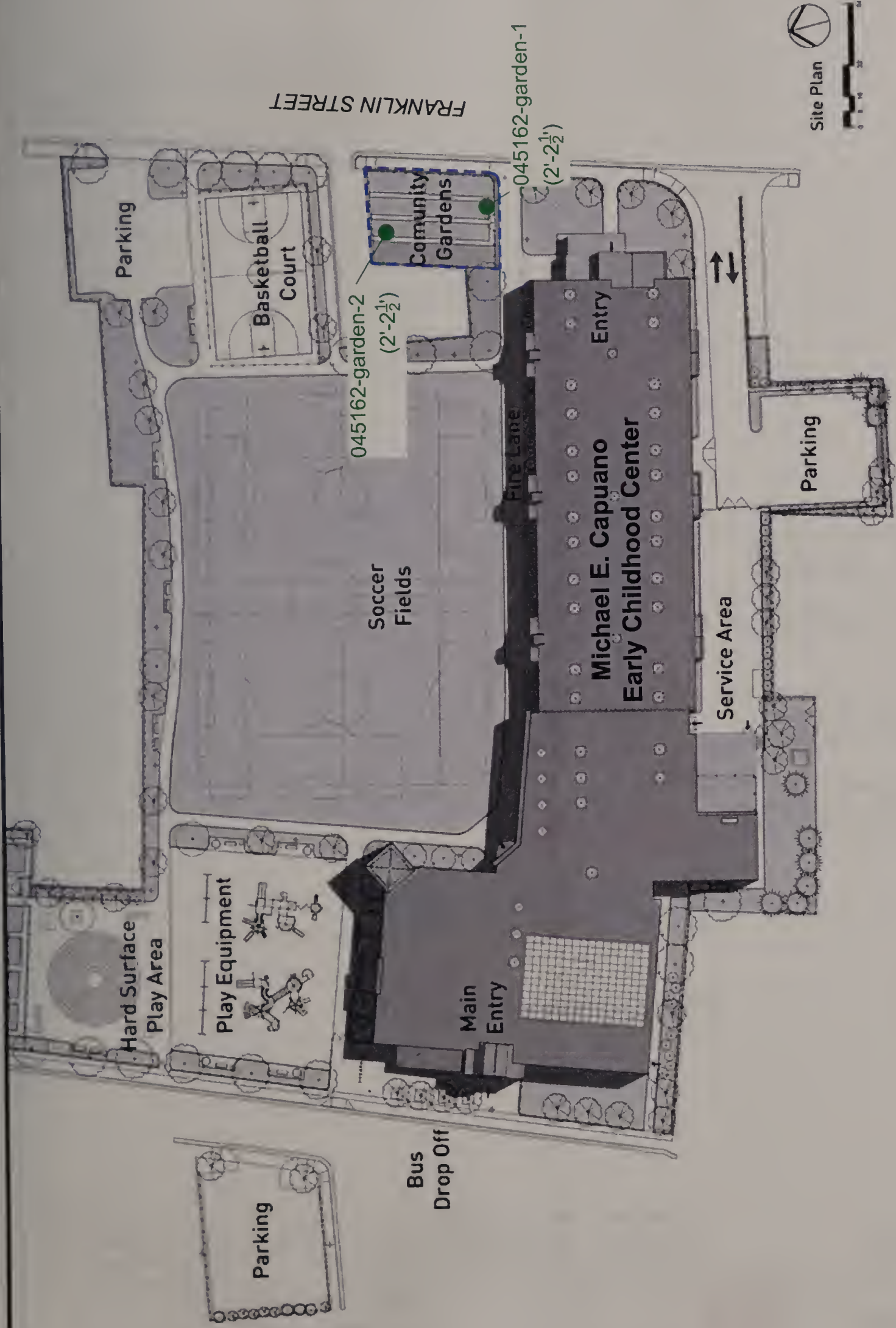
IRA Status Report No. 3 50 Tufts Street Somerville, Massachusetts
UniFirst Corporation Wilmington, Massachusetts

<b>GEI</b> Consultants

INDOOR AIR SAMPLING LOCATIONS 3/8/07
May 2007
Fig. 11






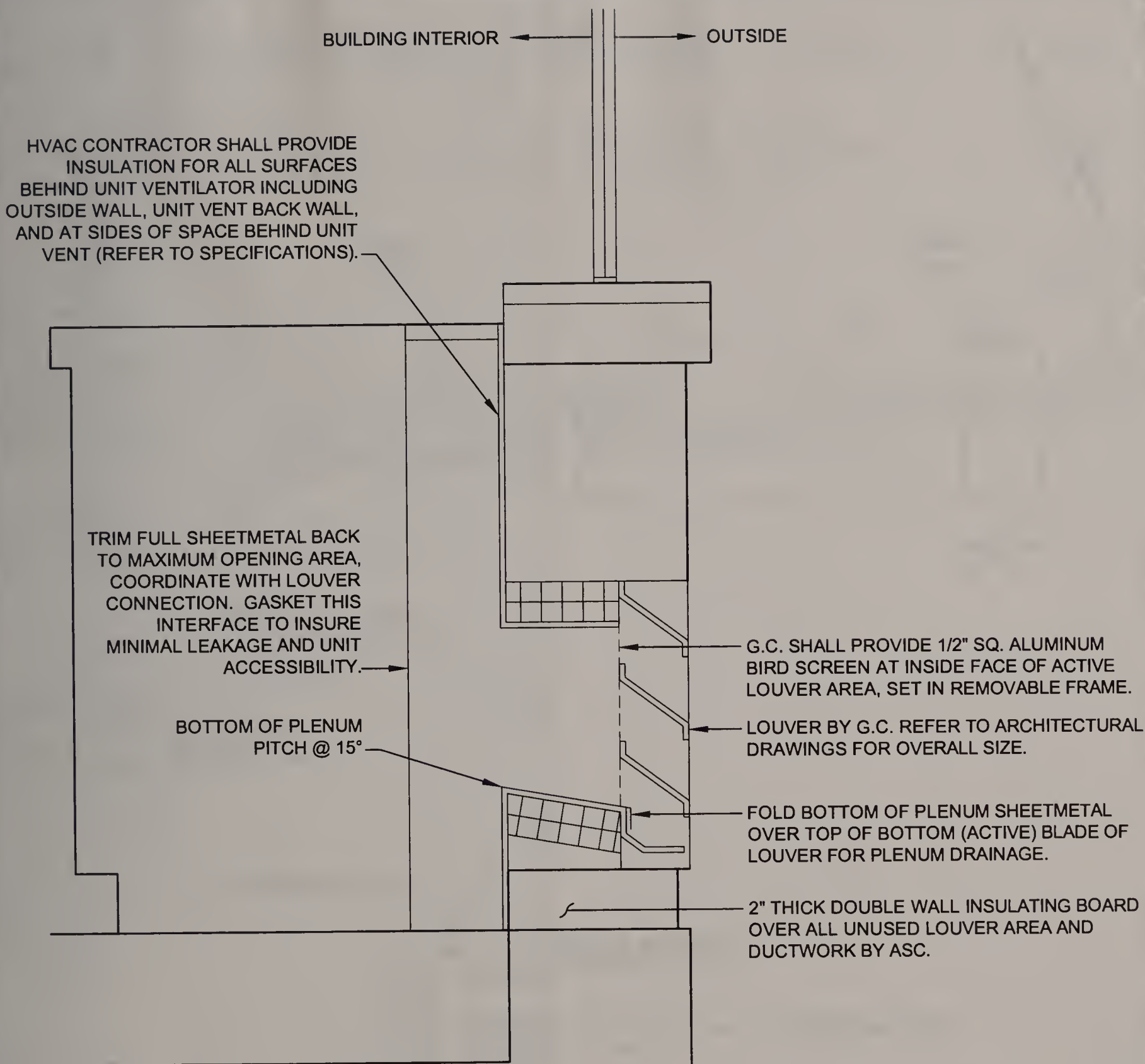


**NOTES:**

1. BASE IMAGE FROM DESIGNSHARE.COM WEBSITE.
2. BASE IMAGE HAS BEEN MODIFIED BY GEI TO SHOW THE APPROXIMATE GARDEN SAMPLING LOCATIONS.

 <p><b>GEI</b> Consultants</p>	<p>GARDEN SOIL SAMPLING LOCATIONS <b>3/30/07</b></p>	<p>IRA Status Report No. 3 50 Tufts Street Somerville, Massachusetts</p>
<p>Project 04516-2</p>	<p>May 2007</p>	<p>UniFirst Corporation Wilmington, Massachusetts</p>
<p>Fig. 13</p>	<p>04516-2 Capuano 07 ptc</p>	<p>5/14/07</p>





**UNIT VENTILATOR**  
(Typical)

**NOTE:**

FIGURE BASED ON DETAIL FROM PLAN TITLED "EDGERLY EARLY CHILDHOOD DEVELOPMENT CENTER, SOMERVILLE, MASSACHUSETTS, ROOF PLAN - HVAC" DATED 06/10/01 BY HMFH ARCHITECTS AND TMP CONSULTING ENGINEERS, INC.

**Not To Scale**

<p>IRA Status Report No. 3 50 Tufts Street Somerville, Massachusetts</p>	<p><b>GEI</b> Consultants</p>	<p>UNIT VENTILATOR CROSS-SECTION</p>	
<p>UniFirst Corporation Wilmington, Massachusetts</p>		<p>May 2007</p>	<p>Fig. 14</p>



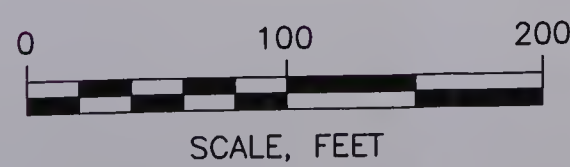






**GENERAL NOTES:**

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
3. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
4. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
5. AIR SAMPLING LOCATIONS SHOWN ON THE FIGURE ARE APPROXIMATE.




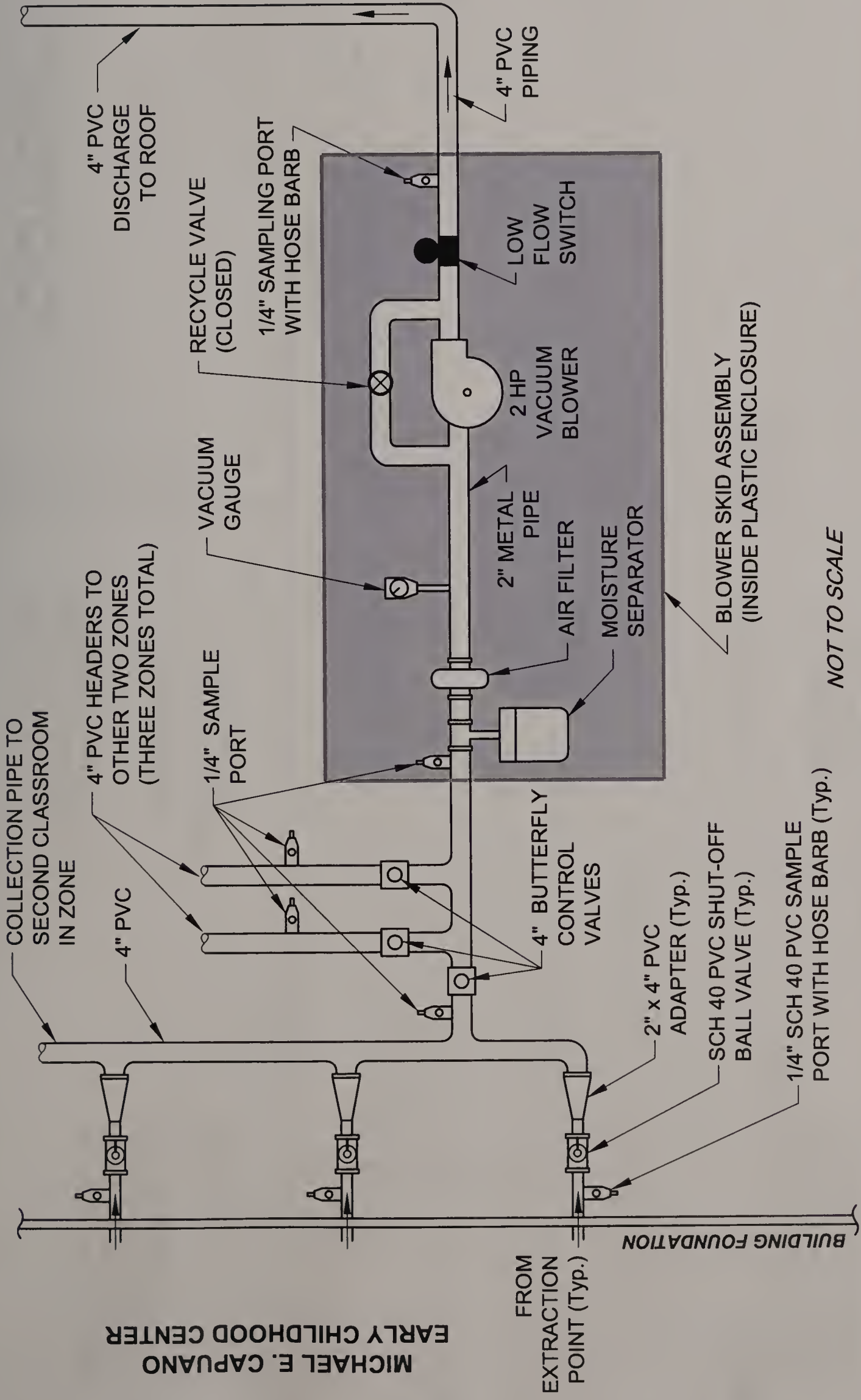
IRA Status Report No. 3 50 Tufts Street Somerville, Massachusetts UniFirst Corporation Wilmington, Massachusetts	 <b>GEI</b> Consultants	OUTDOOR AIR SAMPLING LOCATIONS	
		Project 04516-2	May 2007

Fig. 12






**TYPICAL CLASSROOM  
(TWO CLASSROOMS PER ZONE)**

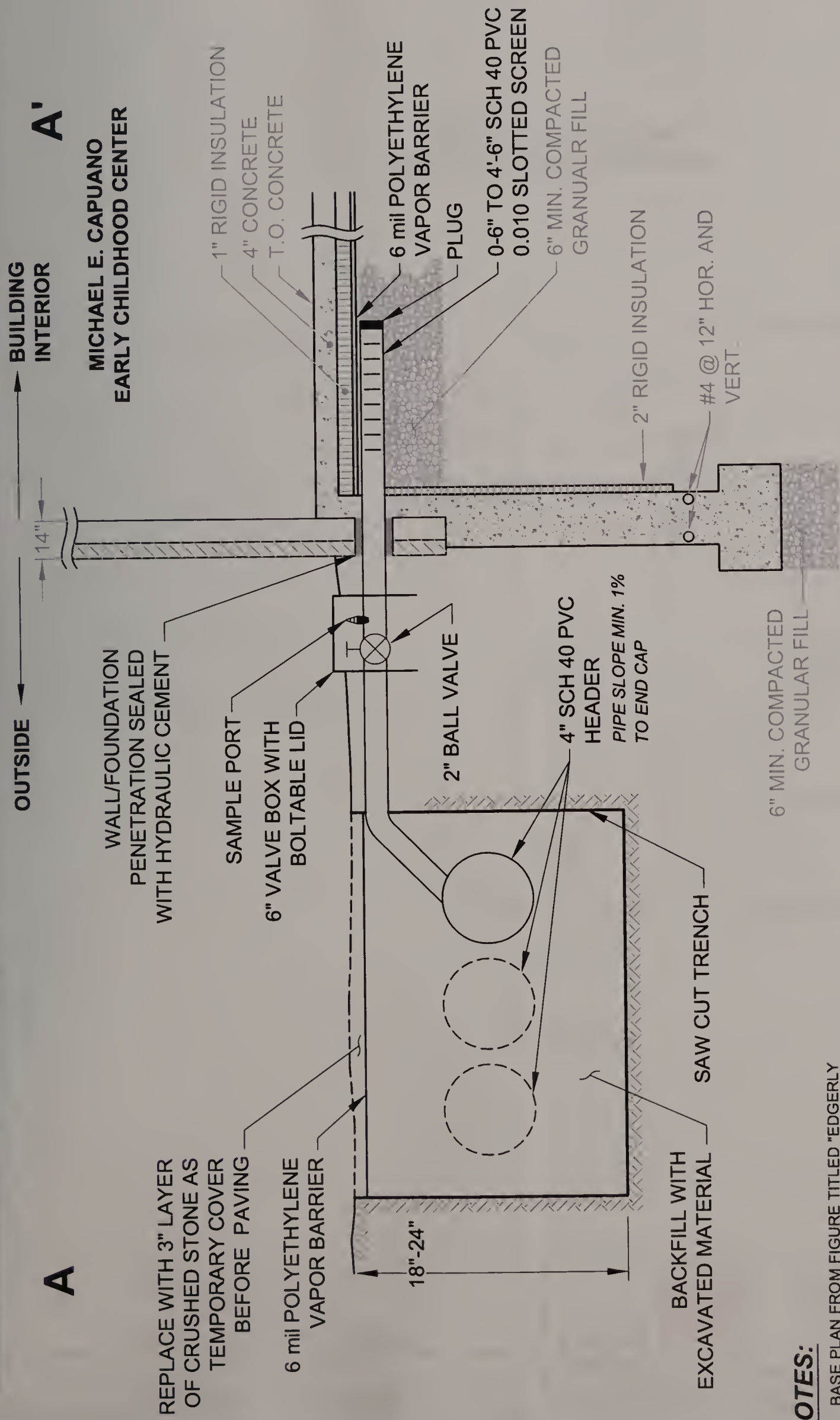


MICHAEL E. CAPUANO  
EARLY CHILDHOOD CENTER

 <p><b>GEI</b> Consultants</p>	<p>IRA Status Report No. 3 50 Tufts Street Somerville, Massachusetts UniFirst Corporation Wilmington, Massachusetts</p>	<p>SSDS SCHEMATIC</p> <p>Project 04516-2</p>	<p>May 2007</p> <p>Fig. 16</p>
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**NOTES:**

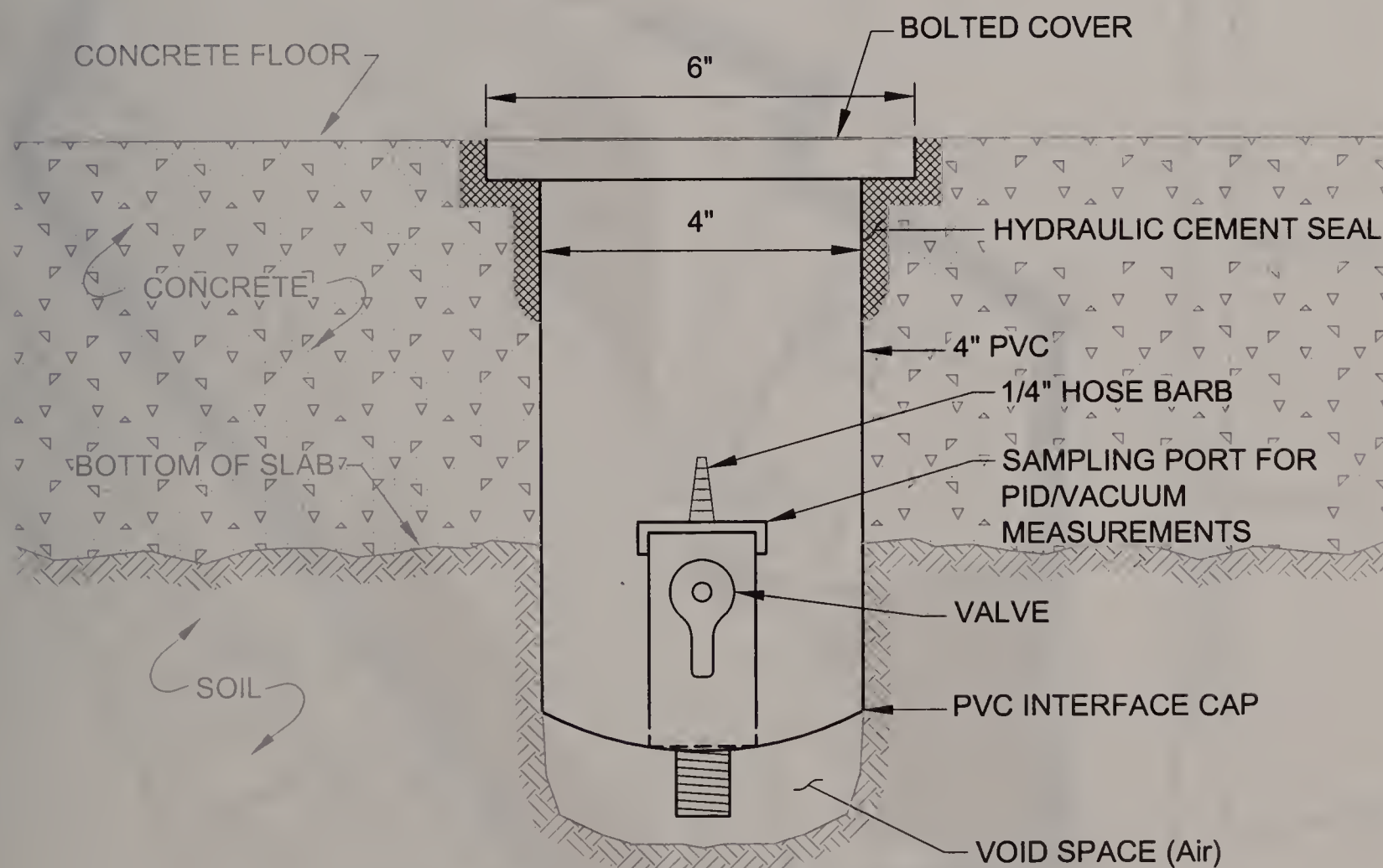
1. BASE PLAN FROM FIGURE TITLED "EDGERLY EARLY CHILDHOOD DEVELOPMENT CENTER SOMERVILLE, MASSACHUSETTS FOUNDATION SECTIONS" BY HMFH ARCHITECTS DATED 08/10/2001.
2. BASE PLAN HAS BEEN MODIFIED BY GEI TO SHOW THE APPROXIMATE LOCATION AND DETAILS OF PORTIONS OF THE SSDS COMPONENTS

**SECTION A - A**  
*Not To Scale*

<p>IRA Status Report No. 3 50 Tufts Street Somerville, Massachusetts UniFirst Corporation Wilmington, Massachusetts</p>	 <p><b>GEI</b> Consultants</p>	<p>TRENCH EXCAVATION AND WALL PENETRATION DETAILS</p>
<p>Project 04516-2</p>	<p>May 2007</p>	<p>Fig. 17</p>



**MICHAEL E. CAPUANO  
EARLY CHILDHOOD CENTER**



*NOT TO SCALE*

IRA Status Report No. 3  
50 Tufts Street  
Somerville, Massachusetts

UniFirst Corporation  
Wilmington, Massachusetts



Project 04516-2

SUB-SLAB SOIL VAPOR  
MONITORING POINT  
DETAIL

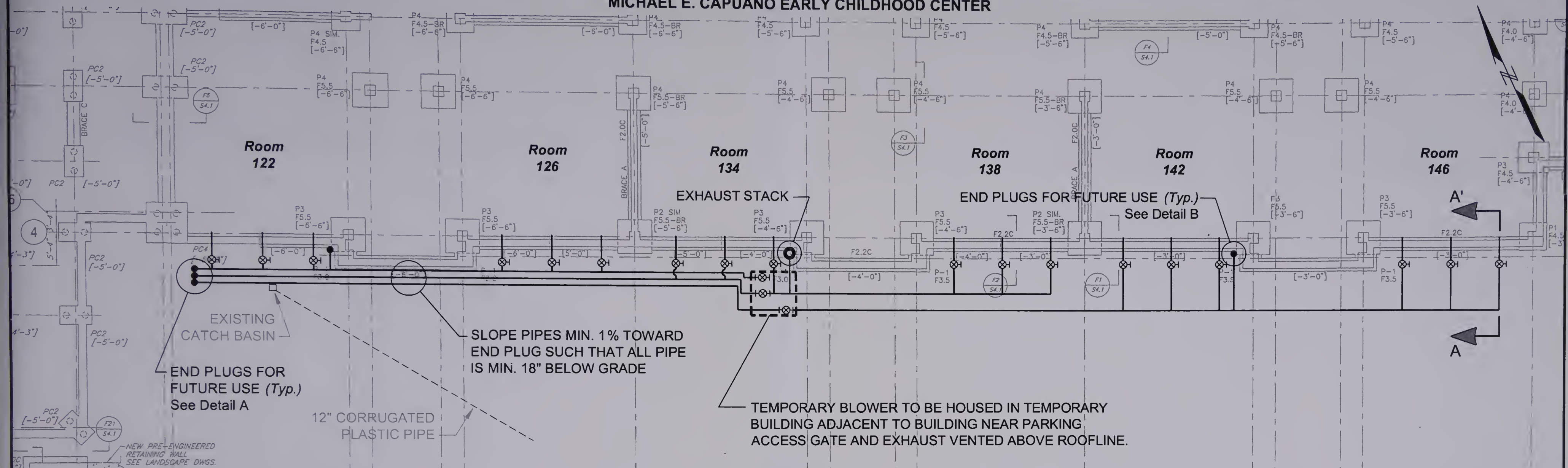
May 2007

Fig. 18

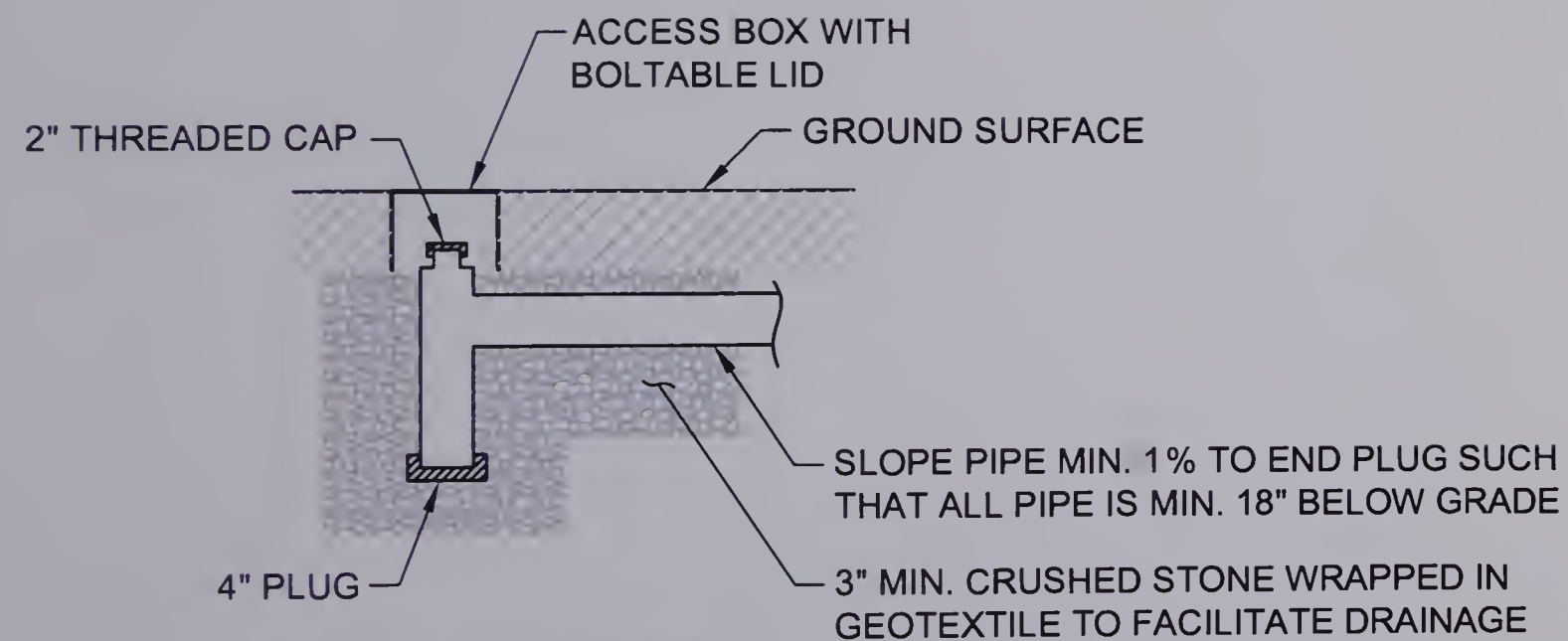




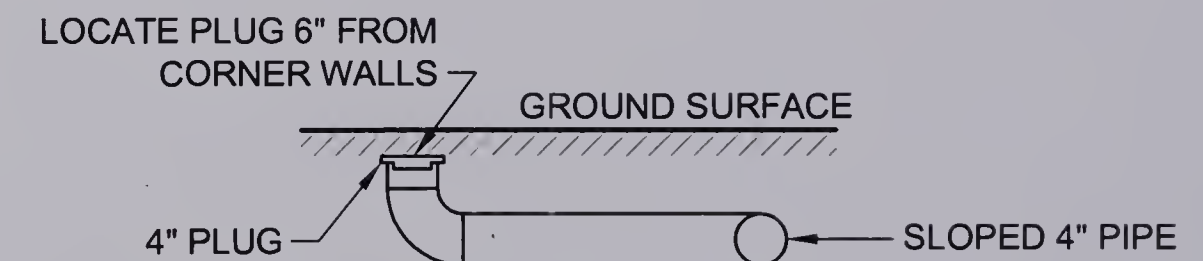
# MICHAEL E. CAPUANO EARLY CHILDHOOD CENTER



**PLAN**  
Not To Scale



**DETAIL A**  
Not To Scale



**DETAIL B**  
Not To Scale

## NOTES:

- FOR SECTION A-A SEE FIG. 14.
- BASE PLAN FROM FIGURE TITLED "EDGERLY EARLY CHILDHOOD DEVELOPMENT CENTER SOMERVILLE, MASSACHUSETTS FOUNDATION PLAN - PART B" BY HMFH ARCHITECTS DATED 08/10/2001.
- BASE PLAN HAS BEEN MODIFIED BY GEI TO SHOW THE APPROXIMATE LOCATION OF THE SSDS COMPONENTS

IRA Status Report No. 3  
50 Tufts Street  
Somerville, Massachusetts  
UniFirst Corporation  
Wilmington, Massachusetts

**GEI** Consultants  
Project 04516-2

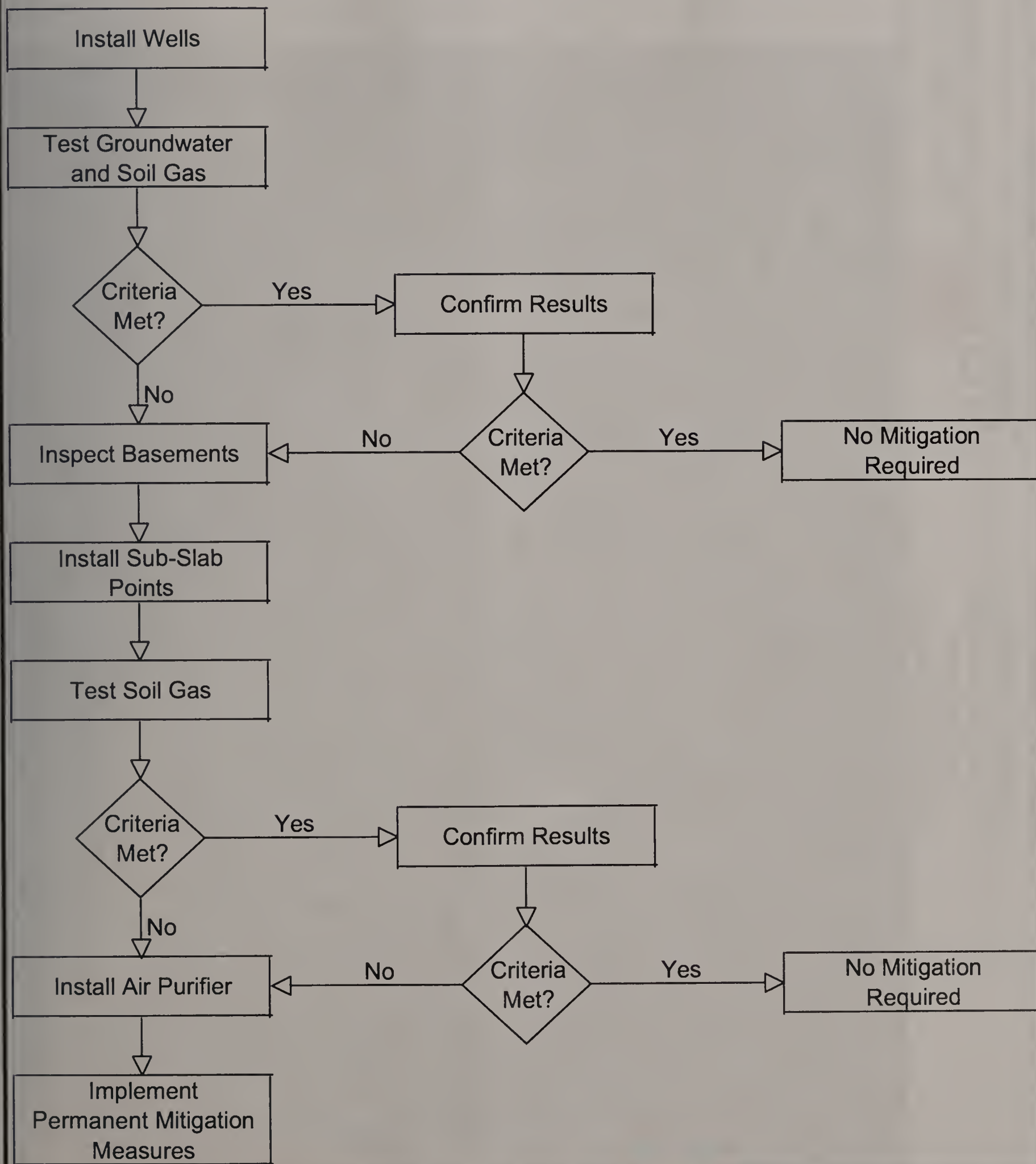
SSDS EXTERIOR PIPING  
SCHEMATIC

May 2007

Fig. 15



# Building Mitigation Process



IRA Status Report No. 3  
50 Tufts Street  
Somerville, Massachusetts

UniFirst Corporation  
Wilmington, Massachusetts



Project 04516-2

EVALUATION PROCESS  
FOR POTENTIAL VAPOR  
INTRUSION

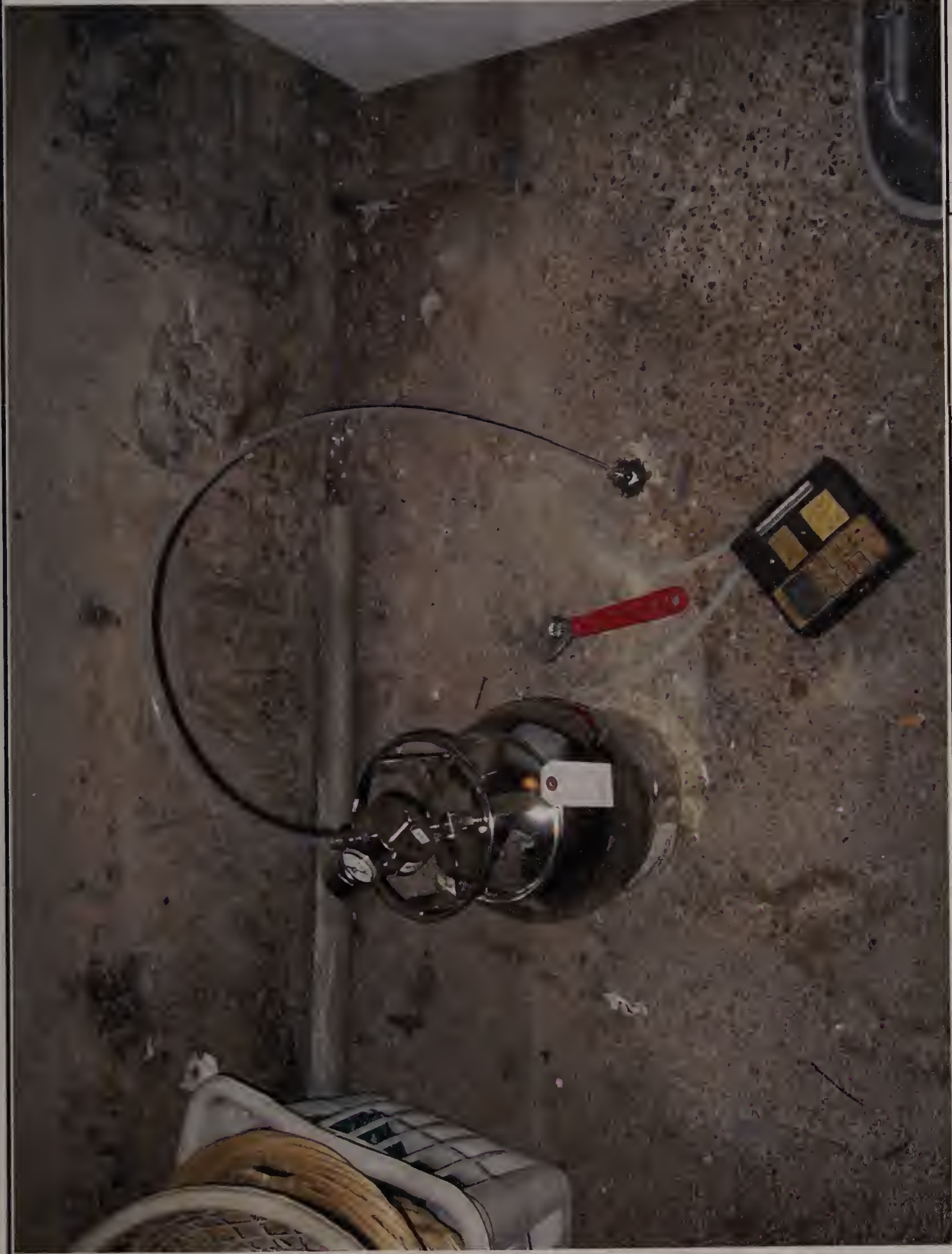
May 2007


Fig. 20





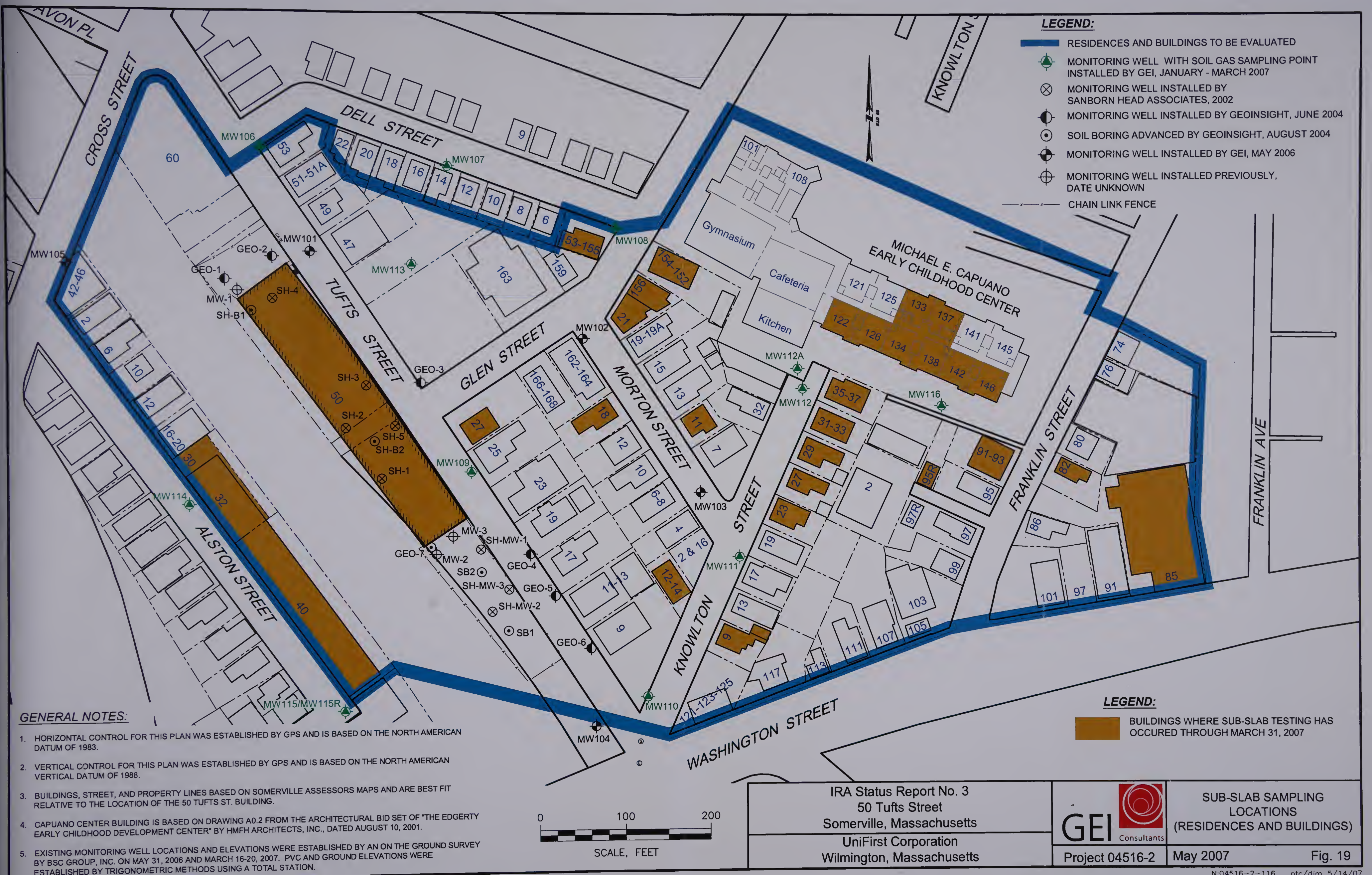




IRA Status Report No. 3 50 Tufts Street Somerville, Massachusetts		 <b>GEI</b> Consultants	SUB-SLAB SOIL VAPOR SAMPLING MONITORING POINT	
UniFirst Corporation Wilmington, Massachusetts			May 2007	Fig. 21
		Project 04516-2		







- LEGEND:**
- RESIDENCES AND BUILDINGS TO BE EVALUATED
  - MONITORING WELL WITH SOIL GAS SAMPLING POINT INSTALLED BY GEI, JANUARY - MARCH 2007
  - MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
  - MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
  - SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
  - MONITORING WELL INSTALLED BY GEI, MAY 2006
  - MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
  - CHAIN LINK FENCE

- GENERAL NOTES:**
- HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
  - VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
  - BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
  - CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
  - EXISTING MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED BY AN ON THE GROUND SURVEY BY BSC GROUP, INC. ON MAY 31, 2006 AND MARCH 16-20, 2007. PVC AND GROUND ELEVATIONS WERE ESTABLISHED BY TRIGONOMETRIC METHODS USING A TOTAL STATION.

- LEGEND:**
- BUILDINGS WHERE SUB-SLAB TESTING HAS OCCURED THROUGH MARCH 31, 2007


IRA Status Report No. 3 50 Tufts Street Somerville, Massachusetts UniFirst Corporation Wilmington, Massachusetts		SUB-SLAB SAMPLING LOCATIONS (RESIDENCES AND BUILDINGS)	
		Project 04516-2	May 2007

Fig. 19







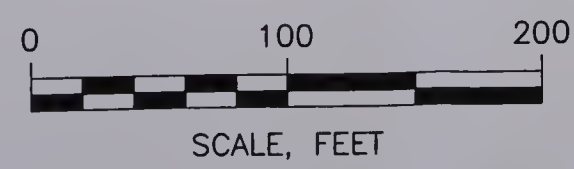


**LEGEND:**

- MONITORING WELL WITH SOIL GAS SAMPLE PORT INSTALLED BY GEI, JANUARY - MARCH 2007
- MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL

**GENERAL NOTES:**

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
3. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
4. EXISTING MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED BY AN ON THE GROUND SURVEY BY BSC GROUP, INC. ON MAY 31, 2006 AND MARCH 16-20, 2007. PVC AND GROUND ELEVATIONS WERE ESTABLISHED BY TRIGONOMETRIC METHODS USING A TOTAL STATION.



<p>IRA Status Report No.3 50 Tufts Street Somerville, Massachusetts</p>	<p><b>GEI</b> Consultants</p>	<p>MONITORING WELL AND BORING LOCATIONS</p>
<p>UniFirst Corporation Wilmington, Massachusetts</p>	<p>Project 04516-2</p>	<p>May 2007 <span style="float: right;">Fig. 22</span></p>



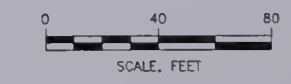




- LEGEND:**
- MONITORING WELL WITH SOIL GAS SAMPLE PORT  
INSTALLED BY GEI, JANUARY - MARCH 2007
  - MONITORING WELL INSTALLED BY SANBORN HEAD  
ASSOCIATES, 2002
  - MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
  - SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
  - MONITORING WELL INSTALLED BY GEI, MAY 2006
  - MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
  - CHAIN LINK FENCE
  - 138 ROOM NUMBER AT CAPUANO SCHOOL

- CHEMICAL DATA TABLE NOTES**
- CONCENTRATIONS ARE REPORTED IN MILLIGRAMS PER KILOGRAM.
  - CONCENTRATIONS OF PCE AND TCE ARE SHOWN FOR EACH LOCATION. CONCENTRATIONS OF OTHER ANALYTES ARE SHOWN ONLY WHERE THEY EXCEEDED THE MCP S1/GW2 METHOD 1 STANDARD.
  - MCP = MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.0000 WITH REVISIONS EFFECTIVE APRIL 3, 2006.
  - PCE = TETRACHLOROETHYLENE
  - TCE = TRICHLOROETHYLENE
  - DCE,CIS,1,2 = DICHLOROETHENE,CIS,1,2-
  - VALUES IN BOLD EXCEED MCP S1/GW-2 METHOD STANDARD
  - J = THE REPORTED RESULT IS BELOW THE LABORATORY TESTING LIMIT AND IS ESTIMATED.

- GENERAL NOTES**
- HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
  - VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
  - STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
  - CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
  - MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED BY AN ON THE GROUND SURVEY BY BSC GROUP, INC. ON MAY 31, 2006 AND MARCH 16-20, 2007. PVC AND GROUND ELEVATIONS WERE ESTABLISHED BY TRIGONOMETRIC METHODS USING A TOTAL STATION.
  - SOIL SAMPLING FOR MW101 - MW116 PERFORMED BEI BETWEEN APRIL 2006 AND MARCH 2007.











LEGEND:

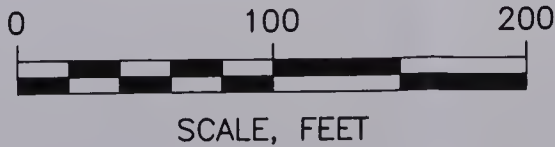
- MONITORING WELL WITH SOIL GAS SAMPLE PORT INSTALLED BY GEI, JANUARY - MARCH 2007
- MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL

CHEMICAL DATA TABLE NOTES:

- 1. ONLY ANALYTES DETECTED ARE SHOWN HERE.
- 2. "ND" = NOT DETECTED
- 3. J = THE REPORTED RESULT IS BELOW THE LABORATORY REPORTING LIMITS AND IS ESTIMATED.

GENERAL NOTES:

- 1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
- 2. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
- 3. BUILDINGS, STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
- 4. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
- 5. EXISTING MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED BY AN ON THE GROUND SURVEY BY BSC GROUP, INC. ON MAY 31, 2006. PVC AND GROUND ELEVATIONS WERE ESTABLISHED BY TRIGONOMETRIC METHODS USING A TOTAL STATION.
- 6. SOIL GAS SAMPLING IN JANUARY 2007 WAS PERFORMED BY GEI CONSULTANTS, INC.

















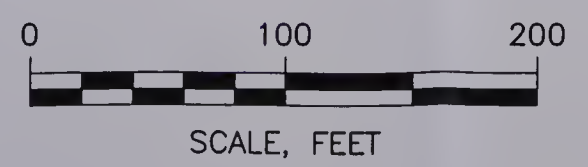



**LEGEND:**

- ⊗ MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- ⊙ MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- ⊙ SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
- ⊙ MONITORING WELL INSTALLED BY GEI, MAY 2006
- ⊕ MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- x — CHAIN LINK FENCE
- 15.35 GROUNDWATER ELEVATION (FEET) NOVEMBER 14, 2006
- 15 — INFERRED SHALLOW OVERBURDEN GROUNDWATER ELEVATION CONTOUR (FEET)

**GENERAL NOTES:**

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
3. BUILDING, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
4. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
5. EXISTING MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED BY AN ON THE GROUND SURVEY BY BSC GROUP, INC. ON MAY 31, 2006. PVC AND GROUND ELEVATIONS WERE ESTABLISHED BY TRIGONOMETRIC METHODS USING A TOTAL STATION.



50 Tufts Street Somerville, Massachusetts			GROUNDWATER CONTOURS 11/14/06	
UniFirst Corporation Wilmington, Massachusetts			Project 04516-2	May 2007





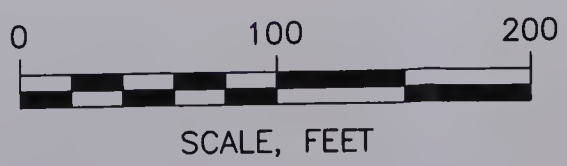


**LEGEND:**

- ⊗ MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- ⊙ SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
- ⊕ MONITORING WELL INSTALLED BY GEI, MAY 2006
- ⊕ MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- CHAIN LINK FENCE
- 15.35 GROUNDWATER ELEVATION (FEET) DECEMBER 12, 2006
- 15 INFERRED SHALLOW OVERBURDEN GROUNDWATER ELEVATION CONTOUR (FEET)

**GENERAL NOTES:**

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
3. BUILDINGS, STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
4. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
5. EXISTING MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED BY AN ON THE GROUND SURVEY BY BSC GROUP, INC. ON MAY 31, 2006. PVC AND GROUND ELEVATIONS WERE ESTABLISHED BY TRIGONOMETRIC METHODS USING A TOTAL STATION.




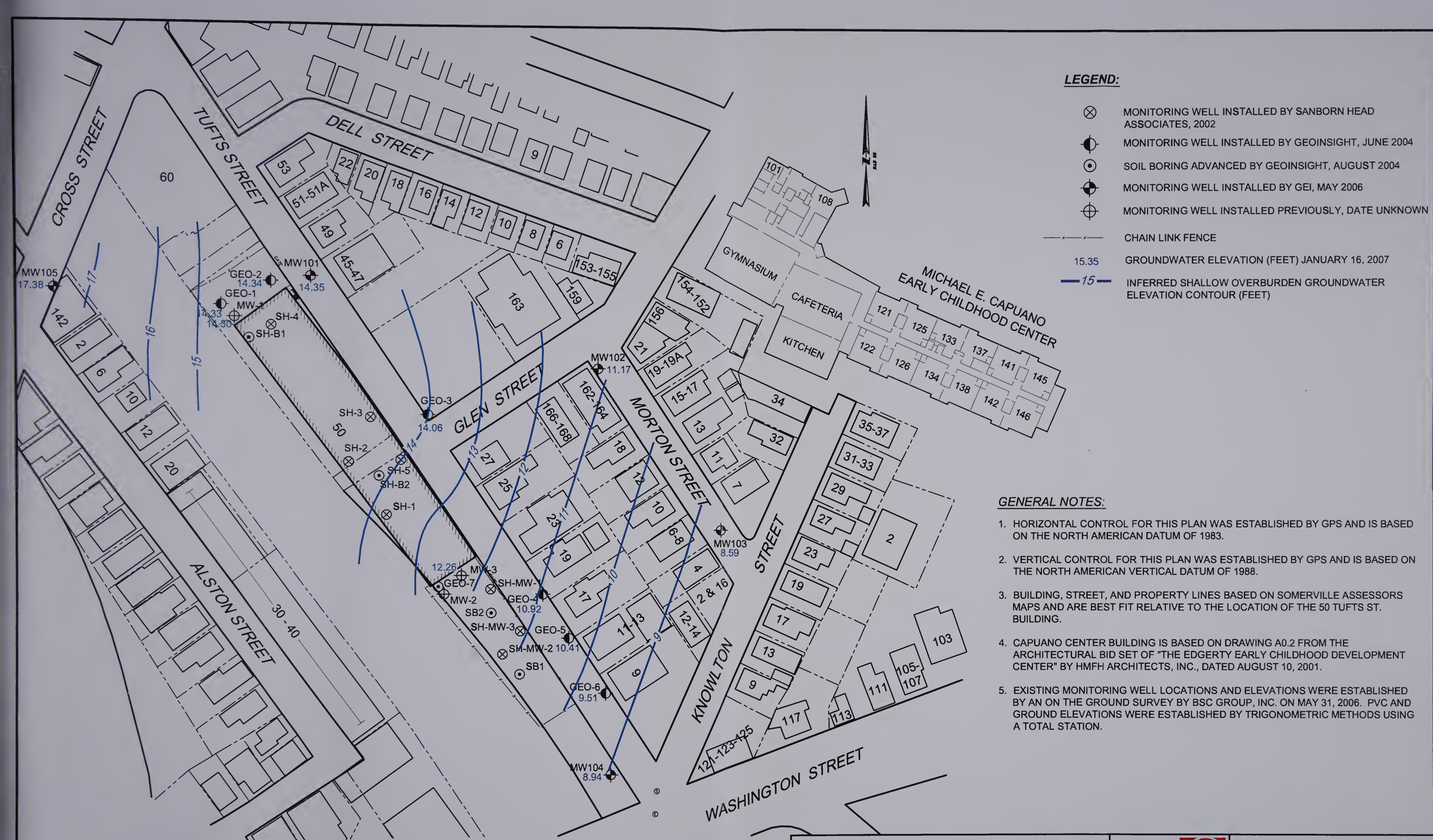
50 Tufts Street Somerville, Massachusetts			GROUNDWATER CONTOURS 12/12/06	
UniFirst Corporation Wilmington, Massachusetts			Project 04516-2	May 2007

Fig. 27







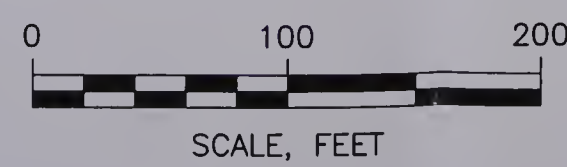


**LEGEND:**

- ⊗ MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- ⊙ MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- ⊙ SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
- ⊙ MONITORING WELL INSTALLED BY GEI, MAY 2006
- ⊙ MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- x — CHAIN LINK FENCE
- 15.35 GROUNDWATER ELEVATION (FEET) JANUARY 16, 2007
- 15 — INFERRED SHALLOW OVERBURDEN GROUNDWATER ELEVATION CONTOUR (FEET)

**GENERAL NOTES:**

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
3. BUILDING, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
4. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
5. EXISTING MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED BY AN ON THE GROUND SURVEY BY BSC GROUP, INC. ON MAY 31, 2006. PVC AND GROUND ELEVATIONS WERE ESTABLISHED BY TRIGONOMETRIC METHODS USING A TOTAL STATION.




50 Tufts Street Somerville, Massachusetts			GROUNDWATER CONTOURS 1/16/07	
UniFirst Corporation Wilmington, Massachusetts			Project 04516-2	May 2007

Fig. 28







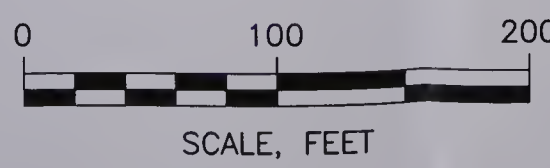


**LEGEND:**

- MONITORING WELL WITH SOIL GAS SAMPLE PORT INSTALLED BY GEI, JANUARY - FEBRUARY 2007
- MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- CHAIN LINK FENCE
- 15.35 GROUNDWATER ELEVATION (FEET) FEBRUARY 12, 2007
- 15 INFERRED SHALLOW OVERBURDEN GROUNDWATER ELEVATION CONTOUR (FEET)

**GENERAL NOTES:**

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
3. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
4. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
5. EXISTING MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED BY AN ON THE GROUND SURVEY BY BSC GROUP, INC. ON MAY 31, 2006 AND MARCH 16-20, 2007. PVC AND GROUND ELEVATIONS WERE ESTABLISHED BY TRIGONOMETRIC METHODS USING A TOTAL STATION.



50 Tufts Street Somerville, Massachusetts			GROUNDWATER CONTOURS 2/12/07	
UniFirst Corporation Wilmington, Massachusetts			Project 04516-2	May 2007

Fig. 29

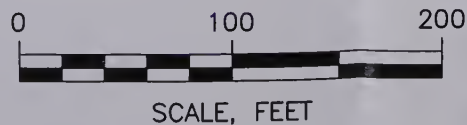


LEGEND:

- MONITORING WELL WITH SOIL GAS SAMPLE PORT  
INSTALLED BY GEI, JANUARY - MARCH 2007
- MONITORING WELL INSTALLED BY SANBORN HEAD  
ASSOCIATES, 2002
- MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- CHAIN LINK FENCE
- 15.35 GROUNDWATER ELEVATION (FEET) MARCH 14, 2007
- 15 INFERRED SHALLOW OVERBURDEN GROUNDWATER  
ELEVATION CONTOUR (FEET)

GENERAL NOTES:

- HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
- VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
- BUILDING, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
- CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
- EXISTING MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED BY AN ON THE GROUND SURVEY BY BSC GROUP, INC. ON MAY 31, 2006 AND MARCH 16-20, 2007. PVC AND GROUND ELEVATIONS WERE ESTABLISHED BY TRIGONOMETRIC METHODS USING A TOTAL STATION.



IRA Status Report No. 3  
50 Tufts Street  
Somerville, Massachusetts  
UniFirst Corporation  
Wilmington, Massachusetts



GROUNDWATER CONTOURS  
3/14/07

Project 04516-2

May 2007

Fig. 30





- LEGEND:**
- MONITORING WELL WITH SOIL GAS SAMPLE PORT INSTALLED BY GEI, JANUARY - MARCH 2007
  - MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
  - MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
  - SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
  - MONITORING WELL INSTALLED BY GEI, MAY 2006
  - MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
  - CHAIN LINK FENCE
  - ROOM NUMBER AT CAPUANO SCHOOL

- CHEMICAL DATA TABLE NOTES**
- CONCENTRATIONS ARE REPORTED IN MILLIGRAMS PER LITER.
  - CONCENTRATIONS OF PCE AND TCE ARE SHOWN FOR EACH WELL. CONCENTRATIONS OF OTHER ANALYTES ARE SHOWN ONLY WHERE THEY EXCEEDED THE MCP GW2 METHOD 1 STANDARD.
  - MCP = MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.0000 WITH REVISIONS EFFECTIVE APRIL 3, 2006.
  - PCE = TETRACHLOROETHYLENE
  - PCE,1,1,2 = TETRACHLOROETHYLENE,1,1,2-
  - TCE = TRICHLOROETHYLENE
  - DCE,1,1- = DICHLOROETHENE,1,1-
  - DCE CIS,1,1- = DICHLOROETHENE,1,1,CIS-
  - TCA,1,1,1- = TRICHLOROTHANE,1,1,1-
  - DCA,1,2 = DICHLOROETHANE,1,2-
  - VALUES IN BOLD EXCEED THE APPLICABLE MCP GW-2 METHOD 1 STANDARD.
  - F+ = THE RESULT HAS A HIGH BIAS DUE TO MATRIX SPIKE RECOVERY ABOVE UPPER CONTROL LIMITS.
  - F- = THE RESULT HAS A LOW BIAS DUE TO MATRIX SPIKE RECOVERY BELOW LOWER CONTROL LIMITS.
  - J = THE RESULT IS BELOW LABORATORY DETECTION LIMITS AND IS ESTIMATED.
  - SAMPLES COLLECTED IN JULY 2002 WERE COLLECTED BY SANBORN HEAD ASSOCIATES.
  - SAMPLES COLLECTED IN AUGUST 2004 WERE COLLECTED BY GEOINSIGHT.
  - SAMPLES COLLECTED IN OCTOBER 2006 THROUGH MARCH 2007 WERE COLLECTED BY GEI CONSULTANTS, INC.
  - DRY INDICATES THAT THE WATER COLUMN IN THE WELL WAS INSUFFICIENT TO OBTAIN A SAMPLE FOR CHEMICAL TESTING.
  - VALUES IN PARENTHESES REPRESENT THE SCREENED INTERVAL OF THE WELL IN FEET BELOW GROUND SURFACE.

- GENERAL NOTES**
- HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
  - VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
  - STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
  - CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
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**Appendices C, D, K, and L**  
Immediate Response Action Status Report  
Status Report No. 3 and Status Report No. 7  
50 Tufts Street, Somerville, MA  
DEP RTNs 3-23246, 3-26114

8100LA

Prepared by:



Submitted to:  
UniFirst Corporation

May 10, 2007

GEI Project 045160

Geotechnical  
Environmental and  
Water Resources  
Engineering

[www.geiconsultants.co](http://www.geiconsultants.co)